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Town of Chebeague Island, Maine

Comprehensive Plan

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Volume I: Findings, Goals and Recommendations

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Town of Chebeague Island Comprehensive Plan

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Volume I: Findings, Goals and Recommendations

A FUTURE VISION FOR CHEBEAGUE

In the year 2020 the Town of Chebeague Island has clean waters and shorelands. The rural character of all the islands has been preserved by actively protecting wild areas from development. On occupied islands rural land uses, such as farming and forestry, are encouraged. The public has access to some of the Town's uninhabited islands though some are particularly protected during nesting season so that they may remain the home of nesting seabirds. The Bay provides sustainable economic and recreational benefits to residents and others. Productive, unpolluted clam-flats also provide economic and recreational opportunities. Fishermen control the sale of, and can increase the value of, their products. Public access to the shore has been increased.

Although it is geographically isolated from the mainland in a state with an aging population, Great Chebeague Island sustains a demographically diverse year-round community by providing a varied economic and social life on the island, with access to the advantages of the Portland metropolitan area. A reliable, affordable multi-modal transportation system provides access to jobs, health care, other services and entertainment on the mainland, without encouraging "too much" development on the island. Adequate parking for CTC is available on Chebeague. Up to date communication technology creates more flexible economic and educational opportunities, and binds the extended Chebeague community together.

The island School provides individualized, quality education in multi-age, multi-grade classrooms. Enrollment fluctuates but stays within a range that allows for effective education. Education at the middle school and high school levels on the mainland provides the advantages of larger, more diverse schools. The community supports students who want to participate in extracurricular activities. Freedom of movement and enjoyment of Chebeague's shores and open spaces, coupled with organized recreation and day care provide a safe and supportive environment for children. Taken together, these services and the "village" that provides them have made the island attractive to working families with children.

Working, year-round residents include fishermen, local business owners, artists, crafts people, commuters to jobs on the mainland and telecommuters on Chebeague. The island provides economic opportunities for people of varying ages and socioeconomic backgrounds. Services from health care to recreation, and from car registration to issuing clam licenses are provided on the island. Housing that is affordable and designed to meet the needs of people of various ages is now available.

The population of older residents is made up of retiring baby-boomers who have lived on the island for much of their lives or have been coming to the island as summer people. These residents have time, energy and skills to work with other residents on community projects. The island's health care has kept pace with this growing group, as has the provision of home-care, assisted living and rescue services.

Year round residents define the island's basic values – valuing personal independence, combined with mutual support and cooperation. The island encourages multi-generational interaction. Day to day as well as social activities encourage exchange of ideas and mutual respect. Residents

volunteer with non-profits from the Commons to Chedemption, work on Town committees and celebrate together on the holidays that mark the passage of each year. The rich historical, archaeological and architectural resources of the island are preserved.

The summer population is still largely made up of families with multi-generational connections to the island, who are also committed to helping Great Chebeague remain one of Maine's last viable year-round island communities. Summer people as well as summer businesses providing lodging, meals and activities contribute substantially to the island economy and to its social institutions.

The development that has occurred over the past ten years has been guided to be compatible with existing scale and styles of architecture. Islanders have built onto existing hamlets and have developed new neighborhoods. Renovation and conversions are sensitive to the integrity of the island's vernacular architecture. Zoning is business friendly and supports economic development that is compatible with neighboring residential uses. Despite increased numbers of houses and businesses, residents have worked over the past ten years to improve the quality of the groundwater and the waters of Casco Bay.

Residents work with the Town and island non-profits to enhance the island's infrastructure such as roads, community buildings whether public or non-profit, the cemetery and marine infrastructure. The relationship between the Town and the non-profits in providing services has evolved to take advantage of administrative and operational efficiencies. Environmentally friendly transportation and energy sources are encouraged. Ordinances from parking to zoning are developed by island people and are enforced strictly and fairly.

The Town of Chebeague Island became independent in 2007. We preserve our past and our small-town character as we continue to plan for the Town's future.

PART I:
INTRODUCTION AND SUMMARY

1. INTRODUCTION

Living on an unconnected island is different from living on the mainland. The issue of sustainability is more immediate, both sustainability of the natural environment and the sustainability of the human community. This presents a challenge to islanders to commit to cooperating with each other to create a balance that can support the community, while preserving its environment.

Great Chebeague Island is the largest island in Casco Bay, about 4 miles long and 1.4 miles wide at the widest points. The Town of Chebeague Island (Map 1) covers 12,701 square acres, 10,482 of which are water. It also includes 17 islands – Great Chebeague, Hope, Ministerial, Stave, Stockman, Bangs, Bates, Sand, Crow, West Brown Cow, Little Jewell, Goose Nest, Rogues, Broken Cove and Upper Green, and parts of Jewell and Little Chebeague.

All of the islands are un-bridged. Great Chebeague is served by two ferries. Chebeague and Hope have year-round populations. Only Chebeague has town infrastructure and services. Bates, Ministerial and Stave are privately owned and are occupied only in the summer. The rest are owned by the State or by the Chebeague and Cumberland Land Trust.

History

Long before Europeans came to America, the islands of the Town were occupied by Native Americans who were their first summer residents. They depended on the extensive fish and shellfish resources of the islands, leaving large shell middens along the shore. Indeed more of these sites have been found on Great Chebeague than in any other place in Casco Bay.

“European” settlers came to the islands in the late 1740s. Many came from North Yarmouth and had deep roots in Massachusetts. The new Maine Legislature allowed the Town of Cumberland on the mainland to secede from North Yarmouth in 1821 after the people of Chebeague voted to join Cumberland. From that time until 2007 all of the TOCI islands were part of the Town of Cumberland.

The island residents farmed the land and earned livings on the sea as mariners and fishermen. In the 19th century Bangs, Bates, Ministerial, Stave, Jewell, Crow and Hope Islands supported year-round settlements in addition to Great and Little Chebeague. After the civil War, 40 percent of the Town of Cumberland’s residents lived on the islands. By that time Chebeague had a thriving economy based on rock slooping and fishermen. The mariners from Chebeague built breakwaters, wharves and lighthouses from Eastport to St. Augustine Florida, while clam diggers provided salted bait to the Grand Banks fishing fleet.

As those industries declined, Chebeague sustained its year-round community by adopting new economic activities. During the late 19th and early 20th centuries, Chebeague became a popular summer resort with as many as fourteen hotels and boarding houses. Even so, an outmigration of the islands’ youth began in the 1890s, resulting in a loss of about 40 percent of the population by 1920. Some people moved back to the island during the Great Depression, and the population has been relatively stable ever since.

World War II was a busy time on Chebeague, as the island became one of a string of Casco Bay islands that formed the defense of Casco Bay's large, deepwater harbor, an important staging area for trans-Atlantic convoys. The Army built shore defenses and an anti submarine net between the islands.

After the war, many the soldiers who had gone off to fight did not return to the island, and many of the island girls who had met soldiers stationed on the island during the war, married them and moved away. Islanders worried that the island was facing another period of decline. They organized a variety of efforts to make the island a more attractive place for working people to live, building a new school, recruiting a doctor to live and work on the island, and even trying, unsuccessfully, to get the State to build a bridge to the island from the mainland.

Then, in the 1970s a number of retirees from the mainland moved to the island. Because of improved ferry service it became possible for workers to live on the island and commute to jobs on the mainland. By the 1980s Chebeaguers were glad they had not gotten a bridge, as the pace of development increased.

The year-round population remained stable. Gradually Cumberland ceased to be a community of farmers and became an up-scale suburb of Portland. The major employment on the island continued to be fishing, with a loyal summer community. Each community faced its own, quite different challenges. In 2005 SAD 51 seemed to be moving toward closing the very small and expensive Chebeague Elementary School within the next few years, thereby undermining the survival of the year-round, working community. At that point Chebeague petitioned the State Legislature to allow the island to secede from The Town of Cumberland and SAD 51. In 2006 the Legislature approved the secession of the islands and their incorporation as an independent town. The Town was inaugurated on July 1, 2007.

Why Does the Town of Chebeague Island Need a Comprehensive Plan?

Sustainability is a central theme in this Plan. On an island, clean groundwater is essential for people and animals and is clearly a finite resource that could be made unusable by the residents themselves. For an economy based substantially on fishing, issues such as pollution of the Bay, protection of spawning grounds and nursery habitat for fish and the sustainability of the lobster harvest, the only substantial fishery left, are equally critical.

Since 80 percent of the area of the Town is Casco Bay, planning over the long term for the use of the Bay's waters is as significant to the Town as planning for the land. This is complicated in that the Town's waters belong to, and are largely controlled by, the State. Local planning for inshore/harbor areas is encouraged by the State, but local planning for deeper waters is an unexplored territory. Though the State's waters have traditionally been considered to be a "commons" available to all users, as increasing demand has developed for more diverse uses, from aquaculture to wind-power, the State has been privatizing the bottom by leasing it for specific uses. This is an issue of great concern to the Town of Chebeague Island's fishermen. This Plan encourages Town planning for all of the Town's waters.



Map 1

The year-round working community as it exists now may not be sustainable. The independent Town of Chebeague Island can now keep its island school open and can make schooling on the mainland more convenient, but it must also be able to attract working families who may find it difficult to find jobs on the island that pay enough to afford the high cost of living, especially for housing and transportation.

Somewhat less central to the survival of the year-round community, but quite important to the attractiveness of the island as a summer community, is the issue of maintaining the rural character of the island. After a long period of very low growth from the 1930s to the 1970s, Great Chebeague has seen a burst of growth, particularly in housing construction. Today, 21 percent of all the houses on the island have been built during the past 20 years alone.

Chebeague has always had a dispersed pattern of development, both of houses and of businesses and community institutions. But houses were often grouped into loose “hamlets”, separated by land that was farmed, or, later, by land that had once been farmland, but had now grown up into woods. The substantial growth of the past 20 to 30 years has somewhat blurred this pattern, leaving year-round and summer residents worried about the threat of “development” and the loss of open space and rural character. Of course, this is a case of “we have met the enemy and it is us”. Development is not being done by some impersonal “outside” force, but by year-round and summer residents of the Town. The Comprehensive Plan can propose ways to keep less developed areas rural by encouraging future development to occur in already developed areas.

The Town also needs to have a Town Comprehensive Plan in order to revise the Zoning and Subdivision ordinances that were inherited from the Town of Cumberland. Since these ordinances were originally developed not only to cover the islands but also to regulate development on the mainland, they are, in many cases, more elaborate than the islands need. In other cases they do not adequately deal with issues that this Plan has found are important on the islands.

Now that the islands are an independent town, residents may be willing to tackle planning issues from aquifer protection and land use ordinances, to working to reduce the cost and inconveniences of living on the island, to preserving open space, repairing the roads or planning for the Town’s waters.

Capacity to Implement the Plan

That said, the Town is a small community. Only 333 people live on the island year round. An additional 1,400 people may be on the island in the summer at any given time. Many of the summer residents have been coming to Chebeague all their lives, as their parents did before them, and are active in the community.

The Town staff is minimal, and busy: an administrator, two town clerks, assessor, CEO, harbormaster and road crew. The School District adds a superintendent, three teachers, cook/custodian and bus driver. The Fire and Rescue personnel are all volunteers. In addition the Town has committees staffed by volunteers: Shellfish, Coastal Waters Commission, Planning Board, Board of Zoning Appeals, Ordinance Review as well as Comprehensive Planning. Five

Selectmen and five School Committee members are elected by Town Meeting to run the Town and the School District.

Financial capacity is also limited. When the Town became independent it took on a large load of debt to the Town of Cumberland and SAD 51. The Town has also been committed to keeping taxes low and stable.

Beyond the Town government, the island has more than a dozen non-profit organizations and clubs from the Chebeague Island Community Association to the Yacht Club. These organizations draw their membership and often their board members from both the year-round and summer residents. They provide many services and activities that in other towns may be provided by the Town. Because they draw on both summer and year-round residents, they expand greatly both the personnel base and the fundraising capacity of the island. But their fiscal capacity is also limited because they rely on private donations to fund their day to day operations, and there are many of them asking for support. Though this plan is a Town plan, several sections of this Plan depend on the Town working with and through these organizations for implementation, if the voluntary organizations choose to take on issues raised here.

These constraints have been considered by the Comprehensive Planning Committee in developing its recommendations.

The Plan is a Beginning

This Plan and its many recommendations is a milestone for a Town that has only been existence since 2007. It lays out a series of issues that face the new Town and makes recommendations about ways to deal with them. It is the beginning of the discussion about how the Town might deal with the issues and problems described here. The scope of the Plan is five to ten years. It recommends the creation of several additional Town Committees, related to land use, aquifer protection, open space, historic and archaeological preservation, roads and capital planning, that would work on exploring these issues further and developing additional plans, or policies and ordinances over that period of time. In some cases these committees may work closely with island non-profits.

In order to become Town policies or ordinances the ideas here not only have to be developed in more detail by Town committees, sometimes with the help of outside consultants. In addition, they must be discussed in public meetings, considered by the Selectmen, and, in many cases, brought up for a vote at Town Meeting. During this process, the way an issue has been defined in this Plan may be redefined, based on additional information and public input, and the specific ideas for policy solutions may change from the ones presented here. This Plan is intended to start the discussion.

Past Planning

In 2000 Great Chebeague wrote its first Long Range Plan, which became an element of the Town of Cumberland's Comprehensive Plan. It did not propose significant changes in Cumberland policies or ordinances. But a number of less ambitious recommendations of that Plan were accomplished in the ten years since 2000 both under Cumberland and under the new Town of Chebeague Island:

- Permanent arrangements were made for continued use and maintenance of the Cousins Island Wharf.
- 20 acres of undeveloped land were protected by conservation easements.
- Work began on affordable, year-round housing – one house was acquired.
- A plan was developed for the maintenance and use of Chandler’s Cove Beach.
- A major project to remove junked cars was successful.
- Another, funded by the State, to replace hazardous home heating oil tanks was successful.
- Barriers to the provision of child care were eliminated by the creation of Kids Place.
- Since the Town became independent, tax rates have been stabilized.

Today many, but not all of the issues remain the same as in 2000. In general, the public’s vision for the Town is also quite similar to the vision of 2000. Indeed the recommendations in this Plan ten years later may sometimes sound familiar to someone who knows the 2000 Plan. One difference, however, is that we have slowly growing experience of dealing with problems, and we recognize that the work is hard and has to be on-going.

But the biggest difference is that we are now an independent town, able to work on these issues directly if we so choose. The other side of this is that now that we are independent, these are our issues to grapple with.

The Planning Process

The Town of Chebeague Island became an independent municipality on July 1, 2007. During the transition year of 2006-07 a group of 11 people had worked to develop the Building Codes, and the Zoning and Subdivision Ordinances that would be put before the first Town Meeting that day. By agreement among all the members of the Transition Committee, its various subcommittees were told to work with the Town of Cumberland ordinances and administrative procedures that had been in force on the islands for many years. In particular, a year would have been too short a time to develop and publicly review new ordinances for the Town. Instead, the Transition Land Use Subcommittee reviewed the Cumberland Zoning and Subdivision ordinances, noting issues that would need to be dealt with when the Town would get to a comprehensive revision.

While the 2000 Long Range Plan was adopted as the Town’s Comprehensive Plan at the first Town Meeting, everyone on the Transition Land Use Subcommittee recognized that a new comprehensive plan would be needed before any revision of the land use ordinances could take place. Many of the issues that would be discussed in a new plan would probably be similar to ones in the 2000 Plan. But the new town would have the opportunity and in some cases new powers to look at them differently. So the Chair of the Transition Land Use Subcommittee applied during the transition year for funds from the State Planning Office and for an Island Institute Fellow to support the anticipated comprehensive planning process.

Initially, it was hoped that the planning process might take a year, as had the process for the 2000 Long Range Plan. In the end it has taken three years of hard work by a diligent and committed group. Highlights of the process were:

- In early 2008 the Comprehensive Planning Committee began to meet. Initially 21 people signed up and in a couple of months that had settled down to 17 regular members. By the end of the process the Committee was down to about 10 people.
- The Committee's two initial tasks were (1) to hire a consultant to help us, and (2) to become familiar with the State Guidelines for communities developing comprehensive plans. The consultants hired were Hugh Coxe of New England Planning Concepts and Judy Colby-George of Spatial Alternatives.
- Island Institute Fellow Thea Youngs began to work at the Town office in September 2007. Her task was to develop a GIS system for the Town, starting with maps of Chebeague that had been done by the Town of Cumberland. Her primary responsibility was to work with the Comprehensive Planning Committee to develop maps that would display and analyze data for the plan. She scoured government agencies and private organizations for material, and worked with the group for two years, as well as an additional month in the summer of 2010. Ultimately she developed about 65 fully documented maps.
- The Comprehensive Planning Committee normally met twice a month except in the summer. In the last six months we met every week. As the inventories indicate, some work was done in subcommittees, some by individuals and some by the Committee as a whole.
- The State-required analyses of conditions and trends were often quite elaborate. The State Planning Office (SPO) supports local communities preparing plans by making available to them a wide variety of data collected by the State and Federal governments. As a newly created town, however, there was little data on the TOCI. So the Committee worked with what data was available and collected its own when there was none.

The central element of the State Guidelines is the Future Land Use Plan. The Guidelines assume that towns have a village center, and the Guidelines focus attention on keeping new development there including new public capital investments, to reduce the problem of sprawl. The planning mechanism for this is to have towns designate "growth areas", "rural areas" and "critical natural resource areas".

In the Town of Chebeague Island, however, the most important planning issues are only somewhat related to land use. The preservation of rural character is an issue that many people care about. But the preservation of the year-round economy and community are also important and are only marginally related to land use. Planning for the Town's waters is not something that the state guidelines cover. Committee members also wanted to have chapters in the plan on education and energy which are not included in the State Guidelines either.

Although the Guidelines provide criteria for communities to argue that they should be given an exemption from defining growth and other kinds of areas, at a meeting on Chebeague SPO representatives discouraged us from doing so. A thorough analysis was

done in September 2008 to see if Chebeague met these criteria. It met some but not others, and the Planning Committee decided that the application for an exemption would not be sufficiently strong.

- Through the fall and winter of 2008-09 the Committee worked on 17 inventories that describe all aspects of the Town from its population, to its economy, its natural resources, its land use patterns and its public and non-profit services and facilities. These inventories provided the basic data for identifying planning issues and formed the basis for developing recommendations in each topic area. These inventories are available on the Town website (www.townofchebeagueisland.org) and in the Library.

A public meeting was held on the Natural Resource inventories to see whether the important issues had been identified and covered. The meeting was interesting, and the conclusion was that the issues had been adequately identified. Since the inventories did not make policy proposals, the Committee decided that the results did not justify having similar meetings on the other inventories.

- During the 2008-09 winter a subcommittee developed a survey to be sent to all year-round and summer residents asking them, in a series of open-ended questions on topics such as transportation, land use and town services, what they wanted the Town of Chebeague Island to be like “for the next generation”. The survey report is attached to the inventories and is also available on the Town website (www.townofchebeagueisland.org) and in the Library.

The survey, a *Newsletter* on it distributed to everyone in the community, and a public meeting held in July 2009 formed the basis for the *Future Vision for Chebeague*. It is the starting place for this Plan.

- During the Fall of 2009, with 14 of the inventories completed, the Planning Committee began to work on developing recommendations for each substantive area. This began with an exercise to identify which issues were the most important to deal with. The process of working on the recommendations lasted through the winter and spring of 2010. Some were easy, with fairly obvious recommendations that everyone could agree on. Others took hours of meetings and discussions.
- In late summer of 2010 and through the fall, a series of four public meetings were held on various sections of the plan as their draft recommendations were completed.

Public Participation

Great Chebeague Island has a year-round population of about 333 people, most of whom expect to be involved in making Town decisions. In a crisis more than a hundred people may come to meetings.

Developing a comprehensive plan does not qualify as a crisis. All Comprehensive Planning Committee meetings were open to the public and noticed in the island’s monthly *Calendar*. Occasionally someone not on the committee would attend. There was a constituency of about 30

to 50 people who came regularly to the public meetings held by the Committee. The Committee was unable to consistently involve many young people, the future of the community, in the process. But when meetings covered topics of direct relevance to their lives, some came.

Public Meetings

July 2008	Kickoff meeting
March 2009	Report on Natural Resource inventories and discussion of issues.
July 2009	Report on the survey and Visioning Workshop
August 2010	Two public meetings on the recommendations on Future Land Use
October 2010	A meeting on the recommendations on the Working Waterfront and Town Waters
November 2010	A meeting on recommendations on Maintaining the Year-Round Working Community
March 2011	A public hearing

Each of the public meetings, except the initial one, was preceded by the mailing of a 8-12 page newsletter to all postal patrons about the topic or recommendations being discussed. The meetings on recommendations also ended with a written “exercise” for all participants to give them a chance to tell us their individual reactions to the recommendations. The public hearing was preceded by a 36 page summary of the Plan and its recommendations and residents were asked to give the Committee the priorities they would assign to the various recommendations. All of these reports are included with the inventories on the Town website.

After each of the meetings on recommendations the Comprehensive Plan Committee met to consider changes to the recommendations in light of the meeting and the tabulation of the exercises. In some cases changes were made to the draft recommendations; in others they were not.

In addition to these meetings, information about the Plan and the planning process were communicated through:

- Short updates in the island’s monthly *Calendar*.
- The Town website.

In such a small community developing a comprehensive plan is also not done in a vacuum. Members of the Comprehensive Planning Committee are involved in non-profits and other community organizations which make proposals to the community that are discussed at community-wide meetings. Both the research for and the discussion at these community meetings have been influential in developing recommendations for the Plan.

- In the fall of 2009 there were a number of community meetings as well as Selectmen’s meetings and Planning Board hearings on setting up a day-care center.
- Between February and June 2010 there were a series of community meetings as well as Selectmen’s meetings on the issue of affordable housing.
- In May 2010 there was a public hearing on a Town Road Plan.

Participation by people from the TOCI outer islands:

At the beginning of the comprehensive planning process, a letter was sent to each of the owners of property on Hope, Bates, Ministerial and Stave. One person responded but no one took up the invitation to be involved in the planning process. The final plan is being sent to the same 12 people.

Regional Coordination and Shared Resources

As a Town made up of un-bridged, off-shore islands, the TOCI has relatively few shared facilities with other communities. However, there are two areas of the Town operations which are critically interrelated with services provided on the mainland. One is the School system. The other is the Fire and Rescue service.

The Chebeague Island School serves children through fifth grade. After that they take the ferry to the mainland to attend middle and high school. When Chebeague seceded from Cumberland and SAD 51, the separation agreement with the school district allowed Chebeague children to continue to attend SAD 51 Middle and High Schools until 2014. The new Town of Chebeague Island paid for this education up front when secession occurred.

As the Education chapter in this Plan indicates, the School Committee has contracted with the Yarmouth School District to take the Chebeague students after 2014. Since Yarmouth and SAD 51 both have good secondary schooling, one of the primary reasons for the change is that transportation to and from Chebeague to Yarmouth schools may be easier than to Cumberland and North Yarmouth. The School Committee has made a proposal to begin the transition to Yarmouth in 2011, with the 6th grade, adding a grade each year until the transition is accomplished. This will be voted on at a future Town Meeting.

It is one of the primary jobs of the School Committee to work with the receiving school district, whether Yarmouth or SAD 51, to integrate the Chebeague curriculum with that on the mainland. The social transition from a very small elementary school to a large, suburban one is also something that the School Committee, Superintendent and teachers prepare for carefully. These are both on-going processes.

The Fire and Rescue Department has mutual aid agreements with Long Island and communities on the mainland. As discussed in the chapter on Public Facilities and Services, Long Island has agreed to answer rescue calls for Chebeague's outer islands because the Chebeague ferry leaves from the north side of the island, while the outer islands are largely to the south of Great Chebeague. Long Island has a rescue boat that can more easily reach these islands.

In addition, the Chebeague Island Rescue has an MOU with the Yarmouth Rescue Department to provide mainland ambulance service for patients from Chebeague. These patients are taken by ambulance from wherever they are injured on the island to the CTC ferry. The ferry takes them to Cousins Island where they are met by the Yarmouth ambulance that transports the patient to a hospital in Portland. Occasionally these calls are answered by some other mainland town under its mutual aid agreement with Yarmouth.

One other relationship with a neighboring town has been of critical importance for Great Chebeague. Over the past 20+ years there has been considerable conflict with some of the residents of Cousins Island and with the Town of Yarmouth over the CTC ferry's use of the Cousins Island pier and the parking lot associated with it. Ultimately, as the Transportation to the Mainland inventory relates, State DOT intervened in the conflict, declaring the use of the wharf an essential public service, taking the parking lot by eminent domain, leasing it to the Town, and providing land next to I-295 in Cumberland to the Town of Cumberland for an additional remote parking lot served by a bus to every ferry. These actions have largely resolved the conflicts, at least for the time being. Finally, in the summer of 2010 MDOT improved the road down to the Cousins Island wharf, building a sidewalk and a turnaround for the CTC buses. For this project, the state paid 80 percent of the cost, and the Town, 20 percent or more than \$150,000.

The major common resource for Chebeague is Casco Bay itself. Lobster catchers participate in DMR's Zone F Council. Some islanders work with Friends of Casco Bay on water monitoring.

The Town is a member of GPCOG and the Town Administrator attends its meetings.

Chebeague works actively with the Island Institute and the Maine Islands Coalition. The Institute works with islanders on many issues from schools to timber harvesting. This Plan benefitted from having an Island Institute Fellow who developed most of the maps. In 2009-10 there was also a Casco Bay Island Fellow who helped several islands including Chebeague to develop affordable housing. Over the past few years the Institute has also been closely involved in the creation of the Calendar Islands Maine Lobster Company which was created and supported by local lobstermen and other island residents, and which markets Chebeague lobster products.

The Maine Island Coalition is a lobbying arm of the Institute. A Coalition meeting on May 16 2008 gave an opportunity for people from various islands to exchange information and experiences on preparing comprehensive plans. The Coalition was also involved in the effort in 2009 to get the State Legislature to adopt an energy efficiency/housing/stimulus bond issue that included a program for the creation of affordable housing on unconnected islands.

2. GOALS, RECOMMENDATIONS AND IMPLEMENTATION: A SUMMARY

Goals and Recommendations

This section lists, in Table 1: Goals and Recommendations, all of the goals and recommendations in this Plan. The table also begins to suggest how the recommendations will be implemented. It specifies what priority each recommendation is given (3 is high, 2 is medium, 1 is low). It lays out who is responsible for carrying it out, with the initials of all the organizations listed in the Key at the beginning of Table 1. Finally it indicates what the immediate result should be – an action by the Board of Selectmen, an ordinance, educational materials or whatever. The rest of the chapter provides an outline of the proposed process of implementation and lays out measures for evaluating that implementation, looking both at the immediate output and longer-range “outcomes”.

This section serves as a summary of both the Plan itself, and what is needed to make its implementation a reality. The section and subsection headings in Table 1 are the same as the section and chapter headings in Part II of the Table of Contents to provide easy reference from the table to where the discussion of that issue is in Part II.

Priorities

Table 1 shows the priorities given to the various recommendations by eight of the nine members active on the Comprehensive Planning Committee at the end of the process, four of five Selectmen (one of whom was a selectman, counted only once), and the four members of the public who responded to the request to rate the priorities in the Plan Summary mailing. The method for rating them was simple. Each person was given a copy of the final recommendations and asked to rate each recommendation on a scale from 0 to 3, where 3 was the highest priority, 2 was moderate, 1 was low priority and 0 was that the recommendation should not be implemented. Then the scores for each item were added together and divided by the number of people who responded on that recommendation. The results were displayed and discussed at several regular Planning Committee meetings.

Based on the discussion at the March 2011 public hearing, the low response rate from the public seems to have been a function of the large number and broad scope of the recommendations. Residents said that it was difficult to decide which should have the highest priority for the Town to implement, particularly because cost estimates were not attached to each one. The Summary of the Plan that was publicly distributed also did not provide pros and cons for each recommendation, though in many cases these are discussed in the full Comprehensive Plan. So this was an interesting, but largely unsuccessful attempt to determine how the public would prioritize a set of general recommendations.

On the other hand, members of the Comprehensive Planning Committee have been working on these recommendations for three years, but they are not representative of the community at large. Members of the Board of Selectmen are elected by the public, and work on the issues discussed in the Plan on a day to day basis. They will also be responsible for beginning the process of

implementing the Plan by creating new Town committees and setting them to work on further development of the recommendations made in the Plan.

Given all these caveats at the way the priorities were arrived at, they should be taken with a grain of salt. In addition, initially the priority ratings from this small group of respondents look like a sea of “medium” rankings, with a few “highs” that everyone can agree on like having a thriving island school and fixing the roads.

But looking at the recommendations in the “medium” category that had ratings between 2.0 and 2.5 (Med*) suggests that there are a number of groupings of one or two “high” rankings with a series of others that are related to them that have ratings between 2.0 and 2.5. These are:

- Sustaining the Community. The two overarching population recommendations came out high as did the recommendation on the school. Related to them are somewhat lower scores that indicate:
 - Support for the limited economic development recommendations, though less for farming and forestry,
 - Support for moderately priced housing,
 - Having the Town continue to work with non-profits on public services.
- Revising the existing Zoning Ordinance, along with other land use measures:
 - Revising the Subdivision Ordinance,
 - Preserving open space,
 - Creating activity centers.
- Creating realistic and long-term capital budgets, with specific mention of
 - The Fire and Public Service Departments.
- Carrying out the recently-created road improvement plan with support for:
 - Additional research on options and costs,
 - Improved road drainage.
- Evaluation of changes in the ferry system.
- Reducing threats to the island’s groundwater, surface waters and Casco Bay such as failed cesspools and poor road drainage, and also including:
 - Creating a Town committee that would work on a range of recommendations for protecting clean ground, surface and Bay waters,
 - Exploring the development of an aquifer protection ordinance,
 - Pumping septic tanks,
 - Minimizing impervious surfaces,
 - Prohibiting the aerial spraying of pesticides.

These ratings, of course, were provided disproportionately by residents directly involved with working on Town Policy and cannot be generalized to all the Town’s residents.

Table 1: Goal and Recommendation Implementation Matrix¹

Key to Names of officials and organizations

Town Meeting	TM		
Selectmen	BOS		
Town Administrator	TA	Chebeague Island Community Asso	CICA
Road Commissioner	RC	Chebeague Island Library	CIL
Town Clerk	TC	Island Commons	IC
Public Works	PW	Chebeague Island Historical Society	CIHC
Fire Department	FD	Chebeague Recreation Center	CRC
Code Enforcement Officer	CEO	Historical Society	CIHS
Harbor master	HM	Chebeague Island Council	CIC
Shellfish Warden	SW	Chebeague and Cumberland Land Trust	CCLT
The Planning Board	PB	The Hall	CIHCC
Board of Zoning Appeals	BZA	Chebeague Transportation Committee	CTC
Coastal Waters Commission	CWC	Casco Bay Lines	CBL
Shellfish Commission	SC	Island Trails Association	ITA
Cemetery Commission	CC	Island Institute	II
Ordinance Revision Committee	ORC		

Proposed Committees

Committee on Land Use Ordinance Revision	LUOC	
Aquifer Protection Committee	APC	
Open Space Plan Committee, aka Land and Conservation Committee		OSPC
Historic Preservation Committee	HPC	
Town Road Committee	TRC	
Capital Planning and Finance Committee	CPFC	

¹ In Table III on the pages below, the count of the recommendation has some skips in the sequence. This is because some blank lines in the original spreadsheet were left out in this version.

Table 1: Goals and Recommendations

Section	Subsection	The Goal Is:	Recommendation	Responsibility	Priority	Output
Section 1	Subsection a	Groundwater				
2. Clean Waters	Ground-water	ADEQUATE, CLEAN GROUNDWATER	Create a standing Town Aquifer Protection Committee (APC)	BOS/TM	Med* ₂	ORC
3. Clean Waters	Ground-water	ADEQUATE, CLEAN GROUNDWATER	Explore the development of an aquifer protection ordinance.	APC; consultant / BOS; TM	Med*	Budget item
4. Clean Waters	Ground-water	ADEQUATE, CLEAN GROUNDWATER	Consider application to the Federal Environmental Protection Administration to have the Town's islands designated as a sole source aquifer.	APC/TA	Med	Application
5. Clean Waters	Ground-water	ADEQUATE, CLEAN GROUNDWATER	Continue ongoing public education about groundwater.	APC	Med*	Education materials
6. Clean Waters	Ground-water	ADEQUATE, CLEAN GROUNDWATER	Continue water monitoring around the old dump.	Consultant	Med*	Monitoring; budget item
7. Clean Waters	Ground-water	ADEQUATE, CLEAN GROUNDWATER	Develop a program to make pumping of septic tanks easier and more regular.	APC / TA / ORC	Med*	program; ordinance?
8. Clean Waters	Ground-water	ADEQUATE, CLEAN GROUNDWATER	Do a survey / build a database of septic systems.	APC/consultant	Med	Data base / budget item

² Med* means that the recommendation had an average rating of between 2.0 and 2.5.

9. Clean Waters	Ground-water	ADEQUATE, CLEAN GROUNDWATER	Institute a Town registration requirement for new and replacement septic systems. Data to be registered should include GPS coordinates and design, and should be comparable to existing data.	APC/TA/ BOS / CEO	Med	Data Base
10. Clean Waters	Ground-water	ADEQUATE, CLEAN GROUNDWATER	Institute a Town well registration requirement for new development. Data to be registered should include GPS coordinates and yield, and should be comparable to existing data.	APC / TA / BOS / CEO	Med*	Data Base
11. Clean Waters	Ground-water	ADEQUATE, CLEAN GROUNDWATER	Remove the current language in the Zoning Ordinance allowing commercial extraction of groundwater.	APC/LUO C/BOS/ TM	Med*	Ordinance
12. Clean Waters	Ground-water	ADEQUATE, CLEAN GROUNDWATER	Replace failed cesspools and other obsolete septic systems in aquifer recharge areas by referring owners to State financial aid programs and/or developing a local one.	APC / TA / BOS	High	Gradual elimination of failed cesspools and septic pits
13. Clean Waters	Ground-water	ADEQUATE, CLEAN GROUNDWATER	Review public or collective well systems to see if they should be registered with the State Public Water Supply Program.	APC/TA	Med	Registration
14. Clean Waters	Ground-water	ADEQUATE, CLEAN GROUNDWATER	The Town should monitor areas where saltwater intrusion into wells along the shore has been occurring, and consider whether to adopt regulations to reduce this risk.	APC	Med	Monitoring/ budget item
15. Clean Waters	Ground-water	ADEQUATE, CLEAN GROUNDWATER	The Town should work with existing volunteers to develop an affordable system for regularly taking junked cars off the island.	BOS/TM/ CEO volunteers	Med	Program

16. Clean Waters	Ground-water	ADEQUATE, CLEAN GROUNDWATER	The use of road salt should be minimized or ended in the most vulnerable aquifer recharge areas.	TA / Road Commissioner	Med*	Reduced use of salt
17. Clean Waters	Ground-water	ADEQUATE, CLEAN GROUNDWATER	Where higher density development is encouraged in growth areas explore using collective septic systems.	APC/ consultant /BOS/ TM	Med	Research/ budget item
Section 1	Subsection b	Surface Water				
18. Clean Waters	Surface Water	MAXIMIZE THE ABSORPTION OF SURFACE WATER ON THE ISLANDS	In revising and implementing development regulations, pay attention to minimizing impervious surfaces.	APC / LUOC/PB /CEO	Med*	Ordinance Language
19. Clean Waters	Surface Water	MAXIMIZE THE ABSORPTION OF SURFACE WATER ON THE ISLANDS	In any aquifer protection and land use ordinances, and in development reviews, encourage the use of natural drainage patterns to protect the bay and recharge the aquifer.	APC /CEO / PB	Med*	Ordinance language & implementation
20. Clean Waters	Surface Water	MAXIMIZE THE ABSORPTION OF SURFACE WATER ON THE ISLANDS	The Town should develop more drainage easements with land owners to direct stormwater from ditches to wetlands and retention ponds. Retention ponds might also be used for fire ponds if it is feasible to maintain them.	Road Commissioner / property owners / PS	Med*	Enhanced aquifer quality and quantity; capital budget
21. Clean Waters	Surface Water	MAXIMIZE THE ABSORPTION OF SURFACE WATER ON THE ISLANDS	Increase training of the Town road crew in best management practices for roadwork to reduce sediment in runoff, and provide support in the Town budget for materials to stabilize drainage ditches and slow the flow of stormwater.	TA/PS	High	Stormwater management; budget item
Section 1	Subsection c	The Waters of Casco Bay				

22. Clean Waters	Casco Bay	HIGH WATER QUALITY IN CASCO BAY	Conduct research to determine whether the nitrogen-fed green algae on Town clam flats and beaches is the result of local runoff.	Consultant	Med*	Research; budget item	
23. Clean Waters	Casco Bay	HIGH WATER QUALITY IN CASCO BAY	Water testing for both bacteria and the physical properties of the seawater should be increased and the results publicized on the island.	SW/ volunteers / Friends of Casco Bay.	Med*	Monitoring / publicity	
24. Clean Waters	Casco Bay	HIGH WATER QUALITY IN CASCO BAY	Continue to monitor any overboard discharge on Great Chebeague, and identify/monitor any that may exist on the outer islands.	CEO / State / HM	Med*	Monitoring	
25. Clean Waters	Casco Bay	HIGH WATER QUALITY IN CASCO BAY	Prohibit aerial spraying of pesticides.	ORC / BOS / TM	Med*	Ordinance	
26. Clean waters	Casco Bay	HIGH WATER QUALITY IN CASCO BAY	The Town should educate the public about the need to keep sediment out of the Bay, especially clam flats. The Town should regulate the cutting of trees along island streams.	APC/BOS /TM/ CEO	Med	Ordinance language	
Section 2	Subsection a	Present and Future Population					
28. Preserving Community	Population	PRESERVATION OF GREAT CHEBEAGUE AS A VIABLE, AGE- AND INCOME-DIVERSE, YEAR-ROUND COMMUNITY.	Carry out the recommendations in the section on Preserving Community.	Everyone	High		

29. Preserving Community	Population	PRESERVATION OF GREAT CHEBEAGUE AS A VIABLE, AGE- AND INCOME-DIVERSE, YEAR-ROUND COMMUNITY.	Develop policies that will retain current young people, and attract individuals and families in the 18 to 40 age group.	BOS/TM	High	
Section 2	Subsection b	The Chebeague Economy				
31. Preserving Community	Economy	ASSISTANCE TO BUSINESSES WITHIN THE NORMAL SCOPE OF TOWN ACTIVITIES	Provide infrastructure that would help significant sectors of the existing economy such as fishing, clamming, construction, and local services.	BOS	High	Program or ordinance
32. Preserving Community	Economy	ENCOURAGEMENT OF NEW BUSINESSES AND THE SURVIVAL OF EXISTING ONES, INCLUDING AGRICULTURE AND FORESTRY, BY CONSIDERING THE IMPACT OF THE TOWN'S VARIOUS REGULATIONS.	Revise zoning provisions on businesses, agriculture, timber harvesting, and other relevant sections, to remove barriers to these economic activities.	LUOC/ BOS/TM	High	Ordinance language
33. Preserving Community	Economy	FAST AND RELIABLE HIGH SPEED COMMUNICATIONS	Work with vendors to make major improvements to internet and cellphone service on the island.	BOS/Chebeague.net	High	Grant applications /legislation capital budget
34. Preserving Community	Economy	INCREASED FARMING AND FORESTRY	Encourage farmers who qualify to enroll in the State Farmland Preservation Program.	BOS/TM/ CICA/ CCLT/	Med	Lower costs for farmers

35. Preserving Community	Economy	INCREASED FARMING AND FORESTRY	Encourage landowners to enroll in the State Tree Growth Program with a management plan for the economic use of trees which the Town will actively enforce.	BOS/TM/ CICA/ CCLT	Med	Lower costs for timber harvesting
36. Preserving Community	Economy	INCREASED FARMING AND FORESTRY	Encourage the Town and the Chebeague and Cumberland Land Trust to acquire property, easements or development rights to land that could be used for farming or forestry and to include these uses in the easement.	BOS/TM/ CICA/ CCLT	Med*	Farm/ forestry land protection
37. Preserving Community	Economy	INCREASED FARMING AND FORESTRY	Explore in more depth the financial viability of combining forestry, animal husbandry and crops that might revive farming in the Town of Chebeague.	BOS/TM/ CICA/ CCLT	Med*	Financial counseling.
38. Preserving Community	Economy	INCREASED FARMING AND FORESTRY	Explore ways to encourage landowners who are interested in a healthy and economically viable forest resource to organize for collective action. Encourage having an overall study of the value and condition of Chebeague's forests.	BOS/TM/ CICA/ CCLT	Med	Coordinated forest manage- ment
39. Preserving Community	Economy	INCREASED FARMING AND FORESTRY	Identify areas of the island where farming and/or forestry could be encouraged, as distinct from areas that should be kept in open space for other purposes, or, which should be open to development.	BOS/TM/ CICA/ CCLT	Med	Criteria for farming and other rural areas in Open Space Plan
40. Preserving Community	Economy	INCREASED FARMING AND FORESTRY	The Town should explore sourcing food and forest resources locally (on Chebeague) as an economic development strategy.	TA/SC/ SUPT/ BOS	Med	Income to farmers; budget items
Section 2	Subsection c	The Cost of Living: Housing, Energy and Transportation				

<p>42. Preserving Community</p>	<p>Cost of Living</p>	<p>REDUCED COST OF LIVING ON GREAT CHEBEAGUE TO MAKE ISLAND LIFE MORE COMPETITIVE WITH THE MAINLAND: HOUSING</p>	<p>Revise the Zoning and Subdivision Ordinances of the Town to make them more suitable for providing moderately priced, year-round housing on Great Chebeague.</p>	<p>LUOC</p>	<p>Med*</p>	<p>Ordinance language</p>
<p>43. Preserving Community</p>	<p>Cost of Living</p>	<p>REDUCED COST OF LIVING ON GREAT CHEBEAGUE TO MAKE ISLAND LIFE MORE COMPETITIVE WITH THE MAINLAND: HOUSING</p>	<p>In the Zoning Ordinance, revision make sure that a range of opportunities are available in the zoning to allow the use of various forms of housing such as accessory apartments and manufactured housing.</p>	<p>LUOC</p>	<p>Med*</p>	<p>Ordinance language</p>
<p>44. Preserving Community</p>	<p>Cost of Living</p>	<p>REDUCED COST OF LIVING ON GREAT CHEBEAGUE TO MAKE ISLAND LIFE MORE COMPETITIVE WITH THE MAINLAND: HOUSING</p>	<p>Encourage low cost availability of lots for income eligible islanders to build their own houses. Use covenants or other mechanisms to keep these lots and houses in a moderate price range when they are later sold.</p>	<p>BOS/TM/ private donors/ CICA</p>	<p>Med*</p>	<p>Housing; capital budget</p>
<p>45. Preserving Community</p>	<p>Cost of Living</p>	<p>REDUCED COST OF LIVING ON GREAT CHEBEAGUE TO MAKE ISLAND LIFE MORE COMPETITIVE WITH THE MAINLAND: HOUSING</p>	<p>Explore the feasibility of renovating existing houses, either available on the open market or in foreclosure, for year-round, moderately priced use.</p>	<p>CICA/ BOS/TM</p>	<p>Med*</p>	<p>Housing</p>

<p>46. Preserving Community</p>	<p>Cost of Living</p>	<p>REDUCED COST OF LIVING ON GREAT CHEBEAGUE TO MAKE ISLAND LIFE MORE COMPETITIVE WITH THE MAINLAND: HOUSING</p>	<p>Explore ways to create more year-round rental units.</p>	<p>CICA / BOS</p>	<p>Med*</p>	<p>Housing</p>
<p>47. Preserving Community</p>	<p>Cost of Living</p>	<p>REDUCED COST OF LIVING ON GREAT CHEBEAGUE TO MAKE ISLAND LIFE MORE COMPETITIVE WITH THE MAINLAND: HOUSING</p>	<p>Over time as moderately priced, year-round housing is created, encourage a mix of lots for people to build on, single-family houses, smaller, apartment-type units and assisted living units of various levels.</p>	<p>CICA / BOS</p>	<p>Med</p>	<p>Housing</p>
<p>48. Preserving Community</p>	<p>Cost of Living</p>	<p>REDUCED COST OF LIVING ON GREAT CHEBEAGUE TO MAKE ISLAND LIFE MORE COMPETITIVE WITH THE MAINLAND: HOUSING</p>	<p>Over time as moderately priced, year-round housing is created, encourage a mix of ownership and rental housing.</p>	<p>CICA / BOS</p>	<p>Med</p>	<p>Housing</p>
<p>49. Preserving Community</p>	<p>Cost of Living</p>	<p>REDUCED COST OF LIVING ON GREAT CHEBEAGUE TO MAKE ISLAND LIFE MORE COMPETITIVE WITH THE MAINLAND: HOUSING</p>	<p>Provide assistance such as financial, technical or legal help, to residents who are trying to buy houses on the island.</p>	<p>CICA</p>	<p>Med</p>	<p>Housing</p>

50. Preserving Community	Cost of Living	REDUCED COST OF LIVING ON GREAT CHEBEAGUE TO MAKE ISLAND LIFE MORE COMPETITIVE WITH THE MAINLAND: HOUSING	Take advantage of all possibilities to reduce the cost of building new housing such as donated land from the Town or from private donors, public grants and low interest loans, while providing attractive and good quality, energy efficient housing.	CICA/ BOS/TM/ private donors	Med*	Housing
51. Preserving Community	Cost of Living	REDUCED COST OF LIVING ON GREAT CHEBEAGUE TO MAKE ISLAND LIFE MORE COMPETITIVE WITH THE MAINLAND: HOUSING	Create at least 3 to 4 year-round, moderately priced housing units over the next ten years that are compatible with island housing scales, settlement patterns and values.	CICA/ BOS/TM	Med*	More moderately priced, year-round housing
52. Preserving Community	Cost of Living	GOOD HOUSING MAINTENANCE AND WEATHERIZATION.	Encourage programs for eligible home-owners, especially the elderly, to get help in the maintenance or renovation of their houses.	CIC/CICA /BOS/ TM/PROP	Med	Program; budget or capital item
53. Preserving Community	Cost of Living	GOOD HOUSING MAINTENANCE AND WEATHERIZATION.	Promote public programs that provide grants or loans to allow residents to make their houses more energy efficient.	CICA/ BOS/TM	Med*	Programs
54. Preserving Community	Cost of Living	PROPERTY TAX RELIEF FOR THOSE IN FINANCIAL NEED.	Explore the development of a local circuit breaker program, subsidized by local tax revenues.	BOS/TM	Med*	Tax relief
55. Preserving Community	Cost of Living	REDUCED COST OF LIVING ON GREAT CHEBEAGUE TO MAKE ISLAND LIFE MORE COMPETITIVE WITH THE MAINLAND: TRANSPORTATION	The Town and CTC should engage in a discussion about ways to reduce the cost of transportation to the mainland by increasing revenues, lowering costs and/or having a Town subsidy.	BOS/CTC	Med*	Joint policy

Section 2	Subsection d	Education				
57. Preserving Community	Education	THRIVING ISLAND SCHOOL	Encourage families that include school age children to live on Chebeague by providing excellent education	Everyone/ CISC/ SUPT	High	More young families
Section 2	Subsection e	Community Services Provided by Island Organizations				
59. Preserving Community	Non-Profit Services	INCREASED ASSISTED LIVING OPPORTUNITIES FOR ELDERS.	Explore ways to make the provision of home care and other such services for the independent elderly more easily obtained on the island.	IC/CIC	Med*	Home care
60. Preserving Community	Non-Profit Services	INCREASED ASSISTED LIVING OPPORTUNITIES FOR ELDERS.	The Island Commons is encouraged to explore expansion of its assisted living facilities as increasing need dictates. This might include housing that is more independent than full assisted living but still provides some services.	IC	Med	Housing
61. Preserving Community	Non-Profit Services	CONTINUED PROVISION OF SERVICES BY ISLAND NON-PROFITS AND CLUBS	The Town (Selectmen and Town Meeting) should continue to consider proposals from non-profits, and perhaps even from clubs, for support in the form of land or financial support for facilities and services that are important for the success of the year-round community.	Non-profits/ BOS/TM	Med*	Capital budget
62. Preserving Community	Non-Profit Services	COST-EFFECTIVE OPERATIONS FOR NONPROFIT FUNCTIONS	The various nonprofits are encouraged to explore ways to join forces with other nonprofits and/or with the Town, to leverage results, and operate more efficiently and effectively.	Non-profits/ BOS/TM	Med*	Improved coordination and efficiency

Section 3	Subsection a	Future Land Use				
64. Future Use of Land and Town Waters	Land Use	SIMPLIFIED LAND USE ORDINANCES DESIGNED TO ACHIEVE TOCI'S GOALS	The Selectmen should appoint a committee -- either ad hoc or a standing committee such as the Planning Board -- to revise the land use ordinances.	BOS	Med	Committee
65. Future Use of Land and Town Waters	Land Use	SIMPLIFIED LAND USE ORDINANCES DESIGNED TO ACHIEVE TOCI'S GOALS	The Town should revise the current Zoning Ordinance inherited from Cumberland to better meet the Town of Chebeague Island's needs and values and to carry out the goals and recommendations of this plan.	LUOC/PB/ BOS/TM	High	Ordinance
66. Future Use of Land and Town Waters	Land Use	SIMPLIFIED LAND USE ORDINANCES DESIGNED TO ACHIEVE TOCI'S GOALS	In this revision, maintain the basic 1.5 acre lot size.	LUOC/PB/ BOS/TM	Med	Ordinance language
67. Future Use of Land and Town Waters	Land Use	SIMPLIFIED LAND USE ORDINANCES DESIGNED TO ACHIEVE TOCI'S GOALS	In revising the land use Ordinances, the Town should consider having only one zoning district on Great Chebeague that would maintain the present zoning practice that allows commercial uses in residential areas as home occupations, home-based occupations or as business buildings reviewed by the Board of Appeals and the Planning Board.	LUOC/PB/ BOS/TM	High	Ordinance language
68. Future Use of Land and Town Waters	Land Use	SIMPLIFIED LAND USE ORDINANCES DESIGNED TO ACHIEVE TOCI'S GOALS	Develop performance standards related to such potential problems as noise, light, odor, traffic and parking to evaluate applications for businesses in residential areas.	LUOC/PB/ BOS/TM	Med	Ordinance language

69. Future Use of Land and Town Waters	Land Use	SIMPLIFIED LAND USE ORDINANCES DESIGNED TO ACHIEVE TOCI'S GOALS	The Town should revise the current Subdivision Ordinances inherited from Cumberland to better meet the Town of Chebeague Island's needs and values and to carry out the goals and recommendations of this plan.	LUOC/PB/ BOS/TM	Med*	Ordinance
70. Future Use of Land and Town Waters	Land Use	1 SIMPLIFIED LAND USE ORDINANCES DESIGNED TO ACHIEVE TOCI'S GOALS	Revise the Zoning Ordinance so that development standards such as setbacks can reflect the particular style of an area's existing development.	LUOC/PB/ BOS/TM	Med* Med*	Ordinance language
71. Future Use of Land and Town Waters	Land Use	PRESERVATION OF CRITICAL NATURAL AREAS, OPEN SPACE, AND RURAL CHARACTER	The Town should develop an open space plan to define critical natural areas and areas for farming and forestry. It should also include a plan for identifying and preserving existing trails on the island, and for creating new ones, where appropriate.	OCPC/PB/ BOS/TM	Med*	Ordinance
72. Future Use of Land and Town Waters	Land Use	PRESERVATION OF CRITICAL NATURAL AREAS, OPEN SPACE, AND RURAL CHARACTER	Zone land (e.g., Roses, Springettes and Bennett Cove ponds), that meets the legal standards for Resource Protection under Shoreland Zoning, as Resource Protection areas.	OSPC/PB/ BOS/TM	Med*	Ordinance
73. Future Use of Land and Town Waters	Land Use	PRESERVATION OF CRITICAL NATURAL AREAS, OPEN SPACE, AND RURAL CHARACTER	Work with landowners to encourage critical natural areas such as upland forested wetlands to be protected by conservation easements or enrollment in the State Open Space Program.	Land-owners/ OSPC/ CCLT/ BOS	Med*	Conser- vation
74. Future Use of Land and Town Waters	Land Use	PRESERVATION OF CRITICAL NATURAL AREAS, OPEN SPACE, AND RURAL CHARACTER	Work with landowners to encourage appropriate use of areas that are suitable for farming or forestry. Productive uses are encouraged. More ideas for how this might be done are found in the Chapter on Agriculture and Forestry.	CICA/ CCLT/II/ Land-owners	Med*	More farming

75. Future Use of Land and Town Waters	Land Use	PRESERVATION OF CRITICAL NATURAL AREAS, OPEN SPACE, AND RURAL CHARACTER	The Town should develop an open-space/recreation impact fee on new development. The money collected by the fee would be used to purchase development rights or land to be kept in open space.	PB or LUOC/ OSPC/ BOS/ TM	Med	Ordinance/Impact fee
76. Future Use of Land and Town Waters	Land Use	PRESERVATION OF CRITICAL NATURAL AREAS, OPEN SPACE, AND RURAL CHARACTER	The Town should consider making a yearly allocation to the Capital Improvement Budget for the purchase of development rights to preserve open space, farmland, shore access and trails in rural areas.	OSPC/ BOS/TM	Med	Capital budget/ open space/trails/farmland
77. Future Use of Land and Town Waters	Land Use	PRESERVATION OF CRITICAL NATURAL AREAS, OPEN SPACE, AND RURAL CHARACTER	The Town should accept private contributions designated for land conservation.	Private donors/ BOS/TM	Med	Land conservation
78. Future Use of Land and Town Waters	Land Use	PRESERVATION OF OPEN SPACE AND RURAL CHARACTER BY CONCENTRATING NEW DEVELOPMENT IN ALREADY-DEVELOPED AREAS	Designate public and non-profit parcels and facilities such as present or possible wharves, or Town or non-profit buildings as “activity centers” or growth areas where the Town expects to spend 75 percent of its growth-related capital expenditures. These may require local, State or Federal funding in the future to be created, renovated or enlarged.	BOS/PB OR LUOC/ TM	Med*	Public Facilities

79. Future Use of Land and Town Waters	Land Use	PRESERVATION OF OPEN SPACE AND RURAL CHARACTER BY CONCENTRATING NEW DEVELOPMENT IN ALREADY-DEVELOPED AREAS	In its revision of the land use ordinances, the Town should encourage somewhat higher density housing in several already-developed and one new hamlet by allowing creation of lots smaller than 1.5 acres.	LUOC/PB/BOS/TM	Med	Ordinance language
Section 3	Subsection b	Historical and Archaeological Resources				
81. Future Use of Land and Town Waters	Historical and Archaeological Resources	GREATER AWARENESS OF CHEBEAGUE'S HISTORY AND THE NEED TO PROTECT ITS HISTORIC RESOURCES	The Town and the Historical Society are encouraged to create a Historic Preservation Committee that would undertake to work with residents and property owners to provide increased protection to historic and archaeological resources.	CIHS/BOS/TM	Low	Committee
82. Future Use of Land and Town Waters	Historical and Archaeological Resources	GREATER AWARENESS OF CHEBEAGUE'S HISTORY AND THE NEED TO PROTECT ITS HISTORIC RESOURCES	The Committee could survey current conditions of Native American sites and educate abutters about the possibility of additional remains of settlement that may be located in the adjacent upland.	HPC/ CHIS	Low	Education
83. Future Use of Land and Town Waters	Historical and Archaeological Resources	GREATER AWARENESS OF CHEBEAGUE'S HISTORY AND THE NEED TO PROTECT ITS HISTORIC RESOURCES	The Committee could research and explore the possibility and potential ramifications of a historic district.	HPC	Low	Ordinance?

84. Future Use of Land and Town Waters	Historical and Archaeological Resources	GREATER AWARENESS OF CHEBEAGUE'S HISTORY AND THE NEED TO PROTECT ITS HISTORIC RESOURCES	The Town and the Historical Society should continue to collaborate on Town projects that depend on historical research.	TA/BOS/CHIS	Med	Research
Section 3	Subsection c	Wharves, Waterfront and the Outer Islands				
86. Future Use of Land and Town Waters	Wharves, Waterfront	ADEQUATE MARINE FACILITIES TO SERVE THE TOWN'S FUTURE POPULATION AND ECONOMY	The Town should do a feasibility & cost/benefit study of the use of Sunset Landing for future marine uses. Such a study should also consider the land use impacts that this change could produce. If a decision is made to make any of these changes, plans need to be made about how the Sunset parcel and surrounding areas will be developed.	TA/Consultant/BOS/ TM	Med*	Study; budget item; capital budget
87. Future Use of Land and Town Waters	Wharves, Waterfront	ADEQUATE MARINE FACILITIES TO SERVE THE TOWN'S FUTURE POPULATION AND ECONOMY	If a decision is ultimately made to build a second wharf on the island, one of the wharves should be made available to fishermen, and equipped with facilities and equipment (such as a hoist) for their use.	BOS/TM	High	Capital budget
88. Future Use of Land and Town Waters	Wharves, Waterfront	ADEQUATE MARINE FACILITIES TO SERVE THE TOWN'S FUTURE POPULATION AND ECONOMY	If the Town decides not to develop Sunset Landing as a marine facility over the next ten to twenty years, it should still retain the land, since it is the only remaining undeveloped large site with deep water access on the island.	BOS	High	No action

89. Future Use of Land and Town Waters	Wharves, Waterfront	MAXIMUM PUBLIC ACCESS TO THE SHORE AND THE WATER FOR RESIDENTS OF AND VISITORS TO THE TOWN.	The Open Space Committee should develop and implement a Public Access Plan, including the utilization of paper streets (refer to related goal under Roads/Running the Town).	BOS/TM/ CWC/ OSPC	Med*	Committee	
91. Future Use of Land and Town Waters	The Outer Islands	KEEPING THE UNDEVELOPED OUTER ISLANDS AS LITTLE DEVELOPED AS POSSIBLE.	Explore the need for and feasibility of wildlife management on outer islands that have introduced species.	CCLT/ITA / STATE/ OSPC	Med	Plan	
92. Future Use of Land and Town Waters	The Outer Islands	KEEPING THE UNDEVELOPED OUTER ISLANDS AS LITTLE DEVELOPED AS POSSIBLE.	Work with the Land Trust, the Island Trail Association, the State and other landowners on issues of general management of the islands and regulation of such uses as camping areas and fires.	CCLT/ITA /STATE/ OSPC	Med	Joint policy	
93. Future Use of Land and Town Waters	The Outer Islands	MONITOR AND REVIEW DEVELOPMENT PLANS FOR THE DEVELOPED OUTER ISLANDS.	The Town should develop a more systematic process for reviewing development proposals from the outer islands. This could include requiring a land use plan for the whole island if significant new development is proposed.	PB/BOS	Med*	Policy or ordinance	
Section 3	Subsection d	Management of the Town's Waters					

<p>95. Future Use of Land and Town Waters</p>	<p>Town Waters</p>	<p>SAFE AND FAIR USE OF TOWN WATERS BY FISHERMEN, RECREATORS, TRANSPORTATION COMPANIES, AND OTHER SERVICE PROVIDERS</p>	<p>The Town should finalize the process begun by decision of the 2010 Annual Town Meeting, of developing a plan for the Town’s waters by developing a plan for near-shore mooring areas and Coast Guard designated anchorages that balances the needs of fishermen, recreational boaters, the Boat Yard and other interested parties. Such a process must not only consider the needs of these various groups but must involve them directly.</p>	<p>HM/CWC/ Coast Guard/ fishermen/ rec boaters/ CIBY</p>	<p>Med*</p>	<p>Plan</p>
<p>96. Future Use of Land and Town Waters</p>	<p>Town Waters</p>	<p>SAFE AND FAIR USE OF TOWN WATERS BY FISHERMEN, RECREATORS, TRANSPORTATION COMPANIES, AND OTHER SERVICE PROVIDERS</p>	<p>The Town should reconstitute the Coastal Waters Commission as a broadly based group of residents who are concerned with the general welfare of the waters of Chebeague.</p>	<p>BOS</p>	<p>Med*</p>	<p>Committee</p>
<p>97. Future Use of Land and Town Waters</p>	<p>Town Waters</p>	<p>SAFE AND FAIR USE OF TOWN WATERS BY FISHERMEN, RECREATORS, TRANSPORTATION PROVIDERS, AND OTHER SERVICE PROVIDERS</p>	<p>The Town should identify and mark the Town boundaries at the Great Bar, Little Chebeague, Jewell Island, Cliff and Hope Islands.</p>	<p>BOS/TA/ Surveyor</p>	<p>Low</p>	<p>Boundary markers</p>

98. Future Use of Land and Town Waters	Town Waters	SAFE AND FAIR USE OF TOWN WATERS BY FISHERMEN, RECREATORS, TRANSPORTATION COMPANIES, AND OTHER SERVICE PROVIDERS	The Town and Harbormaster should provide educational materials on “boating safety, respect and courtesy” to all boaters to make them more aware of possible conflicts among users of the waters.	HM	Med	Educational materials
99. Future Use of Land and Town Waters	Town Waters	INCREASED ROLE FOR TOCI IN STATE DECISION-MAKING ON THE USE OF TOWN WATERS	The Town should consider whether to develop a plan for the use of its waters and bottom. If such a plan is undertaken, its development must also involve the users of the Town’s waters.	CWC/ fishermen / other users of ocean bottom/ BOS/TM	Med*	Plan
100. Future Use of Land and Town Waters	Town Waters	INCREASED ROLE FOR TOCI IN STATE DECISION-MAKING ON THE USE OF TOWN WATERS	The island’s lobstermen are urged to make sure that the TOCI continues to be represented on the Zone F Lobster Council and encourage representatives to work actively for a sustainable lobster harvest and for maintenance of brood stock and protection of juvenile lobsters.	Lobstermen	Med*	Representation on State Policy/implementation Council
101. Future Use of Land and Town Waters	Town Waters	INCREASED ROLE FOR TOCI IN STATE DECISION-MAKING ON THE USE OF TOWN WATERS	The Town should work with other islands and organizations to work with and lobby the State government to attain this goal.	BOS/SC/C WC/II/ Maine Islands Coalition	Med*	More control over use of Town Waters

102. Future Use of Land and Town Waters	Town Waters	SUSTAINABLE USE OF TOWN WATERS	The Shellfish Warden and the Shellfish Commission should continue to actively manage clam flats to maintain and increase productivity.	SC/SW	High	Improved fishing	
103. Future Use of Land and Town Waters	Town Waters	SUSTAINABLE USE OF TOWN WATERS	The Town should consider whether to include additional areas of the Town's shoreline in the Shoreland Zoning Resource Protection Zone.	LUOC/BOS /TM/ Fishermen/ OSPC	Med	Ordinance language	
104. Future Use of Land and Town Waters	Town Waters	SUSTAINABLE USE OF TOWN WATERS	The Town should pay particular attention in the mooring/harbors plan to protecting eel-grass beds.	HM/CWC	Med	Harbors Plan language	
Section 4	Subsection a	Transportation to the Island: Ferries					
105. Running the Town	Ferries	EXPLORATION OF FUTURE RELATIONSHIP BETWEEN TOCI AND CTC AND CBL.	Given Chebeague's dependence on its ferries, the Town should actively work with both companies to insure that its interests are effectively represented in their decision-making.	TA/BOS/ TM/CTC/ CBL	High	Policy	
106. Running the Town	Ferries	EXPLORATION OF FUTURE RELATIONSHIP BETWEEN TOCI AND CTC AND CBL.	The Town should closely follow CTC's reorganization plans and make a decision whether to encourage movement toward CTC becoming a Transit District with a closer relationship with the Town.	TA/BOS/ CTC/TM	Med*	Research; decision	

107. Running the Town	Ferries	EXPLORATION OF FUTURE RELATIONSHIP BETWEEN TOCI AND CTC AND CBL.	If the Town considers providing any additional operating subsidy to CTC to lower parking fees or ferry fares, it needs to consider what impact the subsidy is likely to have on future growth in the Town.	TA/PB/ BOS/TM/ CTC	Med*	Research
Section 4	Subsection b	Transportation on the Island: Roads				
108. Running the Town	Roads	IMPROVED ROADS	Carry out the 2010 Road Plan, and adapt as needed.	TA/BOS/ PS	High	Capital budget; improved roads
109. Running the Town	Roads	IMPROVED ROADS	Develop and adopt road standards for public and private roads.	LUOC and TRC / consultant	Med*	Ordinance
110. Running the Town	Roads	IMPROVED ROADS	Estimate typical cost of possible upgrades, for example, widening substandard roads, paving gravel roads or returning paved to gravel roads. Allocate money for engineering help for this.	TA/TRC /TM/PS/ consulting engineer	High	Budget item; cost estimates
111. Running the Town	Roads	IMPROVED ROADS	Determine what kind of road upgrades residents want to see in light of options and costs.	TRC/BOS/ PS	High	Capital budget; improved roads
112. Running the Town	Roads	IMPROVED ROADS	The Town should evaluate and prioritize drainage areas that need work, and acquire drainage easements when the opportunity arises. Allocate money for a study and engineering help for this.	TA/PS/ consulting engineer	Med*	Drainage easements

113. Running the Town	Roads	FAIR AND COST-EFFECTIVE TOWN POLICIES FOR ACCEPTING AND/OR MAINTAINING PRIVATE ROADS	Develop a policy for maintenance & winter plowing of public and private roads	BOS	Med*	Policy
114. Running the Town	Roads	FAIR AND COST-EFFECTIVE TOWN POLICIES FOR ACCEPTING AND/OR MAINTAINING PRIVATE ROADS	Road standards for various levels of public and private roads should be generally similar.	LUOC and/or TRC	Med	Ordinance language
115. Running the Town	Roads	ACCURATE INFORMATION ABOUT THE TOWN'S ROADS	Compile maps, accurate road descriptions and documentation for all Town roads.	TA	Med*	Data base
116. Running the Town	Roads	SAFETY OF THE MULTIPLE USERS OF TOWN ROADS	Evaluate current locations of street lights and determine, with public input, where there should be more or fewer.	TRC/TA/ BOS/ Public Safety	Med	Research; policy
117. Running the Town	Roads	TOWN DECISIONS ON STATUS OF PAPER STREETS	Act on all possible paper streets before 2017.	OSPC/PB/BOS/TM	Med*	Decisions
118. Running the Town	Roads	TOWN DECISIONS ON STATUS OF PAPER STREETS	Allocate funds for research, survey and legal services	OSPC/BOS/ TM/ consultants	Med*	Research; budget item
Section 4	Subsection c	Public Facilities and Services				
119. Running the Town	Fire and Rescue	ADEQUATE FIRE AND RESCUE SERVICE FOR RESIDENTS OF GREAT CHEBEAGUE ISLAND.	Develop, maintain, and implement a prudent and practical capital equipment plan for the Fire Department.	FD/TA/ CPFC/BOS/ TM	High	Budget items, fire and rescue service

120. Running the Town	Fire and Rescue	ADEQUATE FIRE AND RESCUE SERVICE FOR RESIDENTS OF GREAT CHEBEAGUE ISLAND.	Road standards adopted by the Town must provide for adequate access by fire engines and the ambulance.	FD/TRC/ BOS/TM	High	Ordinance language
121. Running the Town	Fire and Rescue	ADEQUATE FIRE AND RESCUE SERVICE TO RESIDENTS OF GREAT CHEBEAGUE ISLAND.	Provide additional hydrants on existing water sources. Additional fireponds should be added to serve areas now under-served.	TA/FD/PS	Med*	Better fire fighting capacity; capital budget
123. Running the Town	Fire and Rescue	REDUCED RISK OF WILD-FIRE ON THE ISLAND	Educate homeowners about wildfire risks and ways to lessen them.	FD	Med	Education materials
124. Running the Town	Solid Waste	EFFICIENT AND NON-POLLUTING CENTRAL COLLECTION AND COMPACTION OF ISLAND SOLID WASTE.	Develop/upgrade a general maintenance plan and schedule for the facility to keep it appropriately clean, sanitary and safe for users and staff. Such a plan could include mowing the capped landfill, monitoring the wells, providing year-round water supply, washing down the facility, pumping the 1,500 gallon holding tank under the shed and having an eye-wash station.	TA/PS/ Transfer Station Attendant	Med*	Budget item/ Mainten- ance plan
125. Running the Town	Solid Waste	EFFICIENT AND NON-POLLUTING CENTRAL COLLECTION AND COMPACTION OF ISLAND SOLID WASTE.	Provide ongoing education and publicity on recycling and redemption, and continue hazardous waste collection.	TA	Med*	Educational materials; budget items
126. Running the Town	Solid Waste	REDUCED VOLUME OF WASTE MATERIAL	Explore the possibility of town and/or community composting.	Non- Profit/TA/ TM	Med	Compost

127. Running the Town	Solid Waste	REDUCED VOLUME OF WASTE MATERIAL	Explore the use of wood in the brush dump for biomass energy generation on the island.	CICA/BOS/ TM	Med*	Heat
128. Running the Town	Town Office	A TOWN OFFICE THAT ALLOWS FOR EFFICIENT WORK, FACILITIES FOR PRIVATE MEETINGS AND ADEQUATE STORAGE OF TOWN RECORDS.	Identify needs and explore options for better meeting Town Office needs.	TA/BOS/ TM	Med	Capital budget; Expanded Town Office capacity
129. Running the Town	Public Services	EFFECTIVE MAINTENANCE OF THE TOWN'S INFRASTRUCTURE.	Develop, maintain, and implement a prudent and practical capital equipment plan for the Public Service crew.	TA/BOS/ TM	High	Budget items; effective maintenance
130. Running the Town	Cemetery	CEMETERY PLAN ADEQUATE FOR THE NEXT 200 YEARS	The Town and the Cemetery Committee should develop capital & operating plans for the future maintenance and expansion of the cemetery. This should include: accurate maps; new facilities study; water needs study; consideration of green burial options; landscaping plan; gravestone rehab plan; and land needs study.	Consultant/ BOS/TM/ CC	Med*	Plan, map, records, budget items

131. Running the Town	Cemetery	CEMETERY ADEQUATE FOR THE NEXT 200 YEARS	The Town should secure the existing paper records, computerize the cemetery's data so that it can be accessed by both the Town office and the Cemetery Committee, and record important unwritten information, so that the transition from one Committee or administrator to the next can take place routinely.	TA/BOS/ CC	Med*	Cemetery data base
132. Running the Town	Cemetery	CEMETERY PLAN ADEQUATE FOR THE NEXT 200 YEARS	The Town should develop a clear definition of the responsibilities of the advisory Cemetery Committee, any paid employees, and the Town staff.	TA/BOS	Med	Policy
133. Running the Town	Mapping	EXPERTISE TO ACCESS AND CREATE TOWN GIS MAPS	Train Town Staff and others in the community in the use of the Town's GIS maps	BOS/TA/ staff and public	³	Maps/ budget item
Section 4	Subsection d	Fiscal Capacity and Capital Investment				

³ This recommendation was inadvertently left out of the versions of the recommendations that were prioritized by the Planning Committee, the Selectmen and the members of the public.

<p>135. Running the Town</p>	<p>Fiscal Capacity</p>	<p>LONG-TERM CAPITAL PLANNING FOR BOTH EXPECTED AND UNANTICIPATED PROJECTS, EQUIPMENT AND FACILITIES, IN ORDER TO AVOID BORROWING AND BONDING</p>	<p>The Town should work out a realistic capital budget.</p>	<p>TA/TOWN DEPTS/ BOS/ CPFC/TM</p>	<p>High</p>	<p>Capital budget</p>
<p>136. Running the Town</p>	<p>Fiscal Capacity</p>	<p>LONG-TERM CAPITAL PLANNING FOR BOTH EXPECTED AND UNANTICIPATED PROJECTS, EQUIPMENT AND FACILITIES, IN ORDER TO AVOID BORROWING AND BONDING</p>	<p>The Town should identify and take advantage of non-Town (ie, public and private) funding sources for capital projects.</p>	<p>TA/ TOWN DEPTS</p>	<p>High</p>	<p>Funding for capital projects</p>

Timing of Implementation and Allocation of Tasks

Logically, it would seem that the priorities of the recommendations would determine the order in which they are implemented: the most important first. But this is not always the case. Some important issues and ordinances, such as consideration of whether to have an aquifer protection ordinance, will influence how other important issues or ordinances such as the revision of the land use ordinances or the development of an Open Space Plan are dealt with. In addition, some tasks, such as monitoring the wells at the Transfer Station, are routine and ongoing. Sometimes a lower priority task may be sandwiched in between high priority ones, especially if some opportunity such as the availability of a possible grant or interest among volunteers brings them to the fore.

In a small Town that has only been in existence for four years, allocating the tasks of implementing a comprehensive plan is often not obvious. Much of the work that in some communities is done by government employees is done by volunteer committees and non profit organizations. The Town currently has five standing committees and two others are currently being considered by the Selectmen.

Table 2: Existing and Proposed TOCI Committees and Staff

The Planning Board CEO	Standing Committees Proposed in Plan
The Board of Zoning Appeals CEO	Aquifer Protection
The Coastal Waters Commission Harbormaster	Historic Preservation
The Shellfish Committee Shellfish Warden	Land and Conservation Commission
Ordinance Review Committee	
Cemetery Committee	
In review	Temporary Committees Proposed in Plan
Capital Budget Town Administrator BOS	Land Use Ordinance Review Committee
Road Committee Road Commissioner	

These committees work with to the Town Administrator and report to the Board of Selectmen who are responsible for the overall coordination of the Town’s activities. Some of the committees work with a specific Town staff member who can provide some technical assistance on policy and implementation issues.

Table 3: Suggested Timeline for Major Implementation Tasks*

Ongoing project ⇨	End of project ⇨I									
	2011	2012	2013	2014	2015	2016	2017	2018	2019	
Clean Waters: Create APC ⇨		Exploration of Aquifer Protection strategies		Develop Aquifer Protection ordinance? ⇨I						
Preserving Community: Lower Cost of Living										
Town/CICA Housing: 2 Units	⇨		⇨		2 Units	⇨		⇨	2 Units	
Transportation:	CTC reorganization	⇨	⇨	CTC-Town discussions	⇨		implementation of decisions	⇨		
Land Use:		Create ⇨ revise land use ordinances LUOC			⇨I					
Open Space			create ⇨ develop	Open Space Plan					⇨I	
Paper Streets		Additional research on paper streets/Town acceptance of paper streets								⇨I
Back Shore Neighborhood Plan				appoint committee ⇨	develop plan				⇨I	
Town Waters:	Complete harbors plan	⇨I	Shore land in RP in Open Space Plan		⇨I			Plan for Town Waters and Bottom		
Wharves:			⇨	Stone Wharf studies			⇨		decision?⇨	
Roads:	Capital programming for roads	⇨	road standards in Land Use Ordinance		⇨I	⇨		⇨		

*Most of the tasks shown in this table are those that are within the capacity of the Town to initiate. Non-profits will have to develop their own schedules for areas of the Plan where they may be active.

The Plan suggests three additional standing committees, one on aquifer protection, one on lands and conservation which would develop an open space plan, and one on historic preservation which will explore the possibility of creating historic districts on the island. Revision of the land use ordinances could either be done by an existing standing committee such as the Planning Board, or a temporary committee with a different membership. In addition the Selectmen are already considering the creation of committees on roads and on capital budgeting. The Plan does not suggest any new Town staff. If committees need expert help, the plan suggests hiring consultants.

The School system has a parallel structure of standing committees that answer to the Superintendent and the School Committee. For proposed budget appropriations and ordinances, as well as some other town-wide decisions, Town Meeting is the final decision-maker.

Since this is a plan for the Town, all the recommendations are addressed to the Town. The island has many non-profit organizations that have carried out activities often provided by towns such as recreation, creation of moderately-priced, year-round housing, services for the elderly, and library service. In some cases these non-profits have worked with the Town and in some of these instances joint Town/non-profit committees have been developed to do the work. That is the model being used in this Plan.

Table 3 lays out timelines for the major implementation work of the Plan. More detail is given in the discussion below of each policy area.

Evaluation

This chapter also lays out measures for evaluating whether the goals in each section have been met. Some look at “outputs”, whether a specific task has been accomplished, like the development and adoption of a new ordinance. This is indicated in summary form in the Output column in Table 1.

Other measures focus on the intended “outcomes” of policies. Did the efforts to reduce some of the costs of living on the island actually result in lower costs? Have the implementation of the Plan’s policies increased the preservation of open space? The lists of measures below typically give measures of “the issues or problems”. The reader must infer from the rest of the plan which direction, more or less, is better. Some measures are readily available as a result of the Town’s work or in statistics collected by other organizations such as the Friends of Casco Bay, but some new data may need to be collected, and this needs to be organized.

The maps in the Town’s GIS system, developed by Judy Colby-George of Spatial Alternatives and Thea Youngs, the Comprehensive Planning Committee’s Island Institute Fellow, are an important part of the Town’s planning data base and will be important in evaluating changes from 2011 to 2020. While they are easily accessible to Town staff or citizens in their finished form, there is no mechanism now for the staff or citizens to modify them or create new ones, primarily because very few people on the island have the GIS expertise to do this. When it comes time to evaluate whether the goals and recommendations of this plan have been carried out, new maps will undoubtedly be needed. So developing the capacity, among Town staff or

residents, to use these computer mapping resources that the Town has is one of the recommendations of this Plan under Running the Town.

Explanation of Implementation Timing in Table 3:

Clean Waters

In the past any work that has been done to protect Chebeague's aquifer and its waters has been largely ad hoc. Due to the efforts of geologist Carol White, the work on aquifer protection has been effective and has educated residents about the importance of this resource. The public visibility of the need to protect Casco Bay from pollution is much lower.

There is no Town committee or staff member who is responsible for monitoring the Town's waters other than the Shellfish Warden who tests the Bay's waters for the State to determine whether clamming is safe. An initial recommendation in this area is the creation by the Ordinance Revision Committee and the Board of Selectmen of an aquifer protection or clean waters standing committee which would be responsible for developing ordinances, policies and programs, not only ones suggested in this plan, but also developed as a result of the committee's ongoing work.

The Committee's first responsibility would be to explore whether the Town needs an aquifer protection ordinance. It is asked to report in a year's time whether the research that exists already and whatever other research is required indicates whether this is a good idea, and to provide some examples of such ordinances in other towns. If the Town agrees that an aquifer protection ordinance is needed, then its preparation will probably take at least a year.

A few of the recommendations in the clean waters section are ongoing already, such as monitoring the wells at the Transfer Station. Otherwise, it should be up to the Committee to decide the order in which it will address the Plan's other recommendations.

Evaluation Measures:

Outputs:

- Recommendation on whether to have an aquifer protection ordinance, and then possibly, an ordinance.
- Development of septic system and well data bases.
- Designation of each island as sole source aquifer.
- Increased seawater monitoring.
- Registration of all public wells.
- Elimination of substandard septic systems and junked cars.
- Number of oil spills.
- Number of new drainage easements.
- Implementation of mechanisms for reducing sediment in runoff.
- Restrictions on the use of pesticides.

Outcomes:

- Wells with saltwater intrusion
- Wells with bacteria or e coli contamination
- Wells with pesticides, herbicides or other deleterious chemicals

Stable or improved water quality in island streams and the Bay, including nitrogen.

Preserving the Community

Here the Plan's recommendations are more general and the responsibility for implementing them is much more diffuse. The Comprehensive Planning Committee seriously considered recommending that the Town undertake an active effort to define economic development opportunities and a strategy for working actively to encourage business development. But we concluded that this would be too large a job for the Selectmen alone, even with consultant help, and the Town is too small to hire economic development staff. In addition, at the public meeting on Preserving the Community, attendees argued that reducing the cost of living could draw working people to come to live on the island.

So the primary strategy on economic development is for the Selectmen, the Town Administrator and the Town staff to work on economic development opportunities as they present themselves in the normal course of the Town's work. Improving clamming is an easy example, since there is a Shellfish Committee, a Shellfish Warden and a State program that can support this work.

The one exception to this general guideline is that the Town should actively work with Chebeague.net, and with other potential providers to improve high-speed internet and cellphone service to Great Chebeague.

CICA is interested in working to promote farming and forestry on Great Chebeague and developing more detailed strategies to preserve actual and potential farmland is one of the tasks of the proposed Open Space Plan. As with other non-profits, it can bring proposals to the Town for help with this effort to encourage agriculture.

Similarly, looking for ways to ease the costs of regulation by the Town on homeowners and businesses will be one of the tasks of the Committee revising the Zoning and Subdivision Ordinances. This task should be completed by 2015.

In the area of reducing the cost of living, many of the recommendations logically need to be carried by existing non-profits, with the participation and support of the Town. The task of providing moderate-cost, year-round housing has been done by CICA since 2007, with help from the Town as well as funds from island donors and outside organizations. CICA has been working on implementing the various housing recommendations in the plan. Since 2007 the CICA Housing Committee has provided one rental house and is applying to create two rental duplexes. It expects to continue to add units at this rate.

The Island Commons and the Island Commons Resource Center have been the primary organizations for working with the elderly on the island. It must work out their own plans for providing housing and services for older residents, and may ask the Town for help when it is relevant.

CTC is the transportation provider most used by island residents. It is now in the process of becoming a non-profit, and appears to be interested in having a closer relationship with the

Town. It would be the key player in any effort to reduce the cost of transportation to the mainland.

Evaluation Measures:

Outputs:

- Does the island develop its own lobster license district?
- Are Town regulations on business simpler?
- Evaluation of value and condition of island forest.
- Cooperative arrangements between the Town and non-profits

Outcomes:

- Size of age cohorts in 2020 Census compared with the 2000 Census
- Number of children in Island School
- Average time of transportation from Chebeague to mainland school(s)
- Business growth/formation and loss.
- Quality of internet and cellphone service
- Year-round and seasonal jobs/businesses
- Number of lobstermen
- Acres of land being farmed
- Acres in State Tree Growth Program that are actively managed for forestry.
- Number of moderate-cost, year-round housing units.
- Data on year-round rents and sale prices of houses.
- Number of houses that have energy efficiency renovations.
- Number of houses that have been built, year-round and summer
- Support for independent living
- Cost of ferry tickets
- Cost of parking on the mainland

Land Use

The Planning Board, the Board of Zoning Appeals and the Code Enforcement Officer are currently responsible for land use regulation.

If the Town's primary regulatory efforts focus on protecting the Town's groundwater and Casco Bay, then, as the goal in the Plan indicates, the logic of the Zoning and Subdivision Ordinance revisions is to simplify the land use regulations, which are now quite complex. The Selectmen need to create a temporary committee to undertake this revision. The task could be assigned to the Planning Board or to a temporary ordinance review committee including members of the Planning Board and the Board of Appeals. The process should begin once the development of the aquifer protection ordinance is well along, maybe in 2013. It should be completed by 2015.

Maintaining the rural character of the Town is an important goal of the Plan. But the Plan itself provides only a few recommendations about how this might be done. The decision of what coastal wetlands and steep slopes should be placed in Resource Protection needs to be dealt with soon, since these are actions the Town of Cumberland was supposed to have taken when Shoreland Zoning was initially adopted.

But beyond this, this Plan provides only general guidance. In order to adopt a policy such as an open space impact fee, the Town needs to have an open space plan to specify what areas would be eligible for the funds collected. In addition, the Comprehensive Plan was not able to explore in any depth issues such as preserving existing trails and points of access to the shore. These are all issues that indicate that the Town needs a more detailed Open Space Plan.

The Selectmen are urged to create a standing committee on Land and Conservation to develop such a plan and work on its implementation. In addition to people who may have served on the Comprehensive Planning Committee, it should actively involve members of the Chebeague and Cumberland Land Trust which plays a critical role in protecting open space on the islands. If possible, this plan should not be delayed until the possible aquifer protection ordinance and the land use ordinances have been developed. Its ideas and recommendations should influence those other two efforts. However, the task of finding volunteers to work on three major projects at the same time may be difficult.

Development of a neighborhood plan for the area between North Road and the Back Shore will need to be organized by the Planning Board. The timing needs to be coordinated with decisions about whether to use Sunset Landing for a new wharf, and the research on the status of paper streets in the area.

Evaluation Measures:

Outputs:

Adoption of new land use ordinances. A possible measure of simplification of the ordinances would be the length of the new ordinances.

Adoption of an Open Space Plan

Development of a neighborhood plan for the area between North Road and the back shore.

Completion of reviews of paper streets to be retained, by 2017.

Adoption of mechanisms for building up money to buy development rights for open space.

Money collected for open space protection

Creation of any historic districts

Outcomes:

Acres in conservation easements or from which development rights have been purchased.

Acres placed in Resource Protection zoning

Houses built in growth areas versus other areas of Great Chebeague

Cost of land per acre

Wharves, Working Waterfront and Outer Islands

The major issue of whether to build a new ferry landing is one that probably needs to be explored directly by the Selectmen and the Town Administrator, with the help of consultants. If the Selectmen and Town Meeting decide to undertake this task, the studies, and the physical and financial planning for it are likely to last through this Plan's entire life-span.

The work on a shore access plan needs to be part of, or coordinated with, the development of the Open Space Plan.

Evaluation Measures

Outputs:

- A decision on whether to construct a new wharf.
- Development of a Shore Access Plan
- Maintenance/repair work on the Stone Wharf

Outcomes:

- Number of parking spaces at existing and proposed wharves.
- Number of parking tickets issued.
- Number of barge trips to barging ramps
- Number of protected shore access points
- Protected outer islands without animals that disrupt bird nesting.

Use of Town Waters

Here the Town already has two standing Committees and a Harbormaster/Shellfish Warden. The Coastal Waters Committee needs to be revived. The process of developing a “harbors” plan is already under way.

The issue of whether additional lands along the shoreline should be in Resource protection is one that requires the joint efforts of the Coastal Waters Commission, the Shellfish Committee and the proposed Open Space Plan Committee.

The larger, longer-range issue of whether to develop a plan for the use of the Town’s waters and bottom will rest with the two committees charged with policy for the Town waters and the Harbormaster/Shellfish Warden in conjunction with the Board of Selectmen. This effort can only be undertaken if the groups using the Town waters, such as fishermen, aquaculturists, boaters, and other possible users such as wind energy providers are involved. Since the idea of such a plan is new, to the Town and the State, time will be needed to see if it develops support. So this plan, if it comes to fruition at all, is likely to be developed after 2015.

Evaluation Measures

Outputs:

- Adoption of a harbors plan and regulations to carry it out.
- Participation by people from TOCI in decisions made by the State about TOCI waters.
- Needed legislation passed by Legislature
- Adoption of a Town Waters Plan

Outcomes:

- Number and location of moorings
- Lobster harvest relative to estimated supply
- Clam harvest relative to estimated supply
- Recovery of any other fisheries
- Numbers of baby lobsters

Extent of eelgrass beds
Number of State leases of Town bottom

Running the Town

Capital Improvement Planning

The Town is already moving to improve its capacity to do capital improvement planning and budgeting. The Selectmen are considering the creation of a standing committee to help them and the Town Administrator with developing a realistic capital improvement plan that the Town can afford, given its present heavy debt load.

Evaluation Measures

Outputs:

A more detailed Capital Improvement Plan

Outcomes:

Number of times TOCI borrows money for capital improvements.

Roads

A plan for the repair of the Town's roads has been prepared, though the details need to be worked out as the plan is implemented. Its implementation will be very expensive and will probably be spread out over the life of this Plan.

The revision of the land use ordinances will take up the issue of road standards before 2015.

Evaluation Measures

Outputs:

Road Standards for public and private roads
Database on Town Roads

Outcomes:

Feet/yards/miles of good road maintained
Feet/yards/miles of poor road improved
Feet/yards/miles of new road, private and public
Number of drainage easements acquired
Number of street lights
Number of automobile/bike/pedestrian accidents

PART II:

**DISCUSSION OF ISSUES, GOALS
AND RECOMMENDATIONS**

1. CLEAN WATERS

An island without a supply of clean drinking water is uninhabitable. A fishing community can't sustain itself when the waters it fishes are polluted. This means that clean water – fresh and salt - is the most basic requirement for a town located on a group of islands in Casco Bay.

Chebeague's water resources are made up of three systems. One is groundwater where the central concern is recharge of the aquifer that provides fresh water to the island. The second is fresh water on the surface of the land such as streams, ponds, wetlands and drainage ditches, many of which run off into Casco Bay. Stormwater runoff is the major issue here. The third is Casco Bay. One of the most unusual characteristics of the Town of Chebeague Island is that most of its area is sea rather than land. The town covers 12,701 acres, 10,482 of which are water. The Bay is one of the Town's major resources, one that it needs to protect.

Goals and Recommendations

The Goal is: ADEQUATE, CLEAN GROUNDWATER

Aquifer Recharge and Wells

Recommendation: Create a standing Town Aquifer Protection Committee.

Recommendation: Explore whether to adopt an Aquifer Protection Ordinance based on existing and possible new research on Town of Chebeague Island aquifers. This process should look at existing models for regulation of such issues as movement of surface water, mining of gravel, storage of petroleum, septic systems and sources of toxics including nitrogen. It should evaluate tradeoffs between cost of regulation and benefit to the water supply and the Bay.

Recommendation: Consider an application to the Federal Environmental Protection Administration to have the Town's islands designated as a sole source aquifer.

Recommendation: Remove the current language in the Zoning Ordinance allowing commercial extraction of groundwater. This would not prevent development and use of collective residential wells such as Cart Road Acres, Hamwell and Crestwell.

Recommendation: Review public or collective well systems to see if they should be registered with the Public Water Supply Program.

Recommendation: Continue ongoing public education about groundwater
An informed population is essential to protecting water quality. It is much more effective to prevent problems than to clean them up after they have happened, and first in line in prevention is the ordinary resident. Educate Chebeaguers through the use of public forums, written brochures, the *Calendar* and the island's website. This education should cover:

- The functioning of a sole source aquifer.

- The importance of aquifer recharge areas, and about the way water moves in the ground.

- The state of the water in Casco Bay

- How septic systems work and how they are maintained

How to prevent ground and surface water contamination by: heating oil tanks, junked cars, salt, pesticides, herbicides, medications.

How to have gardens and lawns without pesticides and herbicides.

Erosion Control during Land Clearance

The importance of Shoreland Zoning regulations in reducing runoff into the Bay.

Septic Systems

Recommendation: Do a survey and develop a database of septic systems.

Recommendation: Develop a Town-administered program to make pumping of septic tanks easier and more regular.

Recommendation: Replace failed cesspools and other obsolete septic systems in aquifer recharge areas by referring owners to State financial aid programs and/or developing a local one.

Recommendation: Where higher density development is encouraged in growth areas explore using collective septic systems.

Petroleum Use and Storage

Recommendation: The Town should work with existing volunteers to develop an affordable system for regularly taking junked cars off the island.

The Transfer Station

Recommendation: Continue water monitoring around the old dump.

Salt Intrusion into Groundwater

Recommendation: The use of road salt should be minimized or ended in the most vulnerable aquifer recharge areas.

Recommendation: The Town should monitor areas where saltwater intrusion into wells along the shore has been occurring, and consider whether to adopt regulations in the Aquifer Protection Ordinance to reduce this risk.

Information Registration

Recommendation: Institute a Town well registration requirement for new development. Data to be registered should include GPS coordinates and yield and should be comparable to existing data.

Recommendation: Institute a Town registration requirement for new and replacement septic systems. Data to be registered should include GPS coordinates and design and should be comparable to existing data.

The Goal is to: MAXIMIZE THE ABSORPTION OF SURFACE WATER ON THE ISLANDS

Recommendation: In the aquifer protection and land use ordinances and in development reviews, encourage the use of natural drainage patterns to protect the Bay and recharge the aquifer.

Recommendation: The Town should develop more drainage easements with land owners to direct stormwater from ditches to wetlands and retention ponds. Retention ponds might also be used for fire ponds if it is feasible to maintain them.

Recommendation: Increase training of the Town road crew in best management practices for roadwork to reduce sediment in runoff, and provide support in the Town budget for materials to stabilize drainage ditches and slow the flow of stormwater.

Recommendation: In revising development regulations, pay attention to minimizing impervious surfaces.

The Goal is: HIGH WATER QUALITY IN CASCO BAY

Monitoring:

Recommendation: Water testing for both bacteria and the physical properties of the seawater, perhaps by volunteers, should be increased and the results publicized on the island. The Town should be responsible for testing the water at swimming beaches, at a minimum at Chandler Cove Beach. This effort should include testing of the surface water coming off of Chebeague in streams.

Recommendation: Conduct research to determine whether the nitrogen-fed green algae on Town clam flats and beaches is the result of local runoff, and develop policy to prevent it.

Recommendation: Continue to monitor any overboard discharges on Great Chebeague, and identify/monitor any that may exist on the outer islands.

Reducing Sources of Pollution

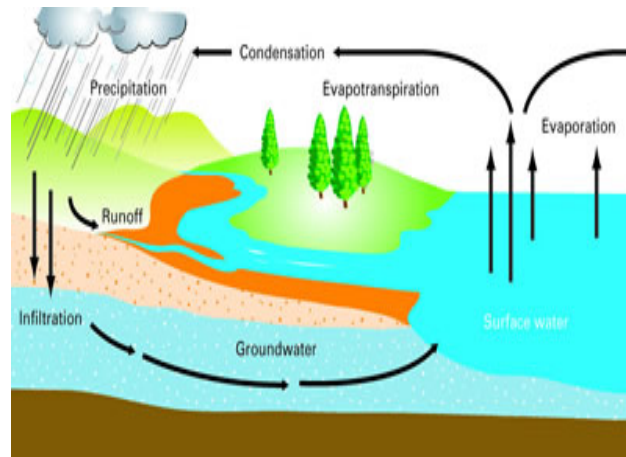
Recommendation: The Coastal Waters and Shellfish Commissions should seriously examine an application and management plan for a boat pump-out barge. This has become controversial, so analysis is necessary to see if it would reduce pollution.

Recommendation: Prohibit aerial spraying of Dimlin for browntail moths.

Discussion

Water is intertwined with many related topics -- climate, vegetation and waste disposal. High quality fresh water supplies are essential to our way of life. And clean ocean water is essential to our economy. Because all of the islands in the Town are served entirely by private wells and septic systems, it is critical to understand the hydrologic cycle which describes how water flows through our environment. It falls as rain or snow. Some is absorbed into the ground. We draw on this groundwater for our drinking water. Some runs off into wetlands, streams or the Bay. Some of the water in these water bodies evaporates into the air. Some water is absorbed by

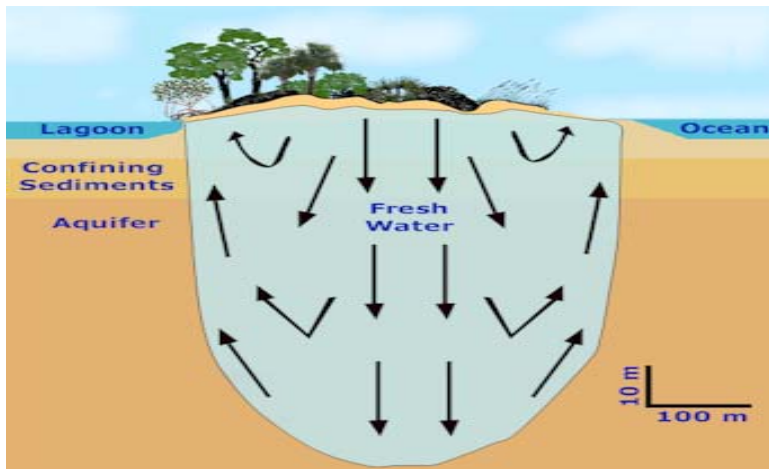
vegetation which also releases water into the air. The evaporated water ultimately condenses and falls again as snow or rain.



The Hydrologic Cycle

a. Groundwater

On the islands, the quality and quantity of fresh water are the big factors. The research shows that on Great Chebeague there is plenty of water for any expected development. So quality is our big concern. This is especially important because all of Chebeague’s fresh water comes from a single source aquifer- a single lens of fresh groundwater water under the island floating on the



An Island Aquifer

heavier sea water surrounding it. Any pollution of the surface or groundwater potentially could damage all of it. Certain kinds of soils, especially sand and gravel, that allow larger amounts of rain and snow to percolate down into the ground are called “aquifer recharge areas”. These particularly need to be protected from sources of pollution.

The major threats to fresh water quality in the Town are:

- Oil and gasoline. Oil in the groundwater is expensive to clean up. The average cost of cleaning up a heating oil tank leak is \$500,000. Despite a state-funded program to replace heating oil tanks with problems, Chebeague has had five significant oil spills in recent years.
- Septic wastewater. In 2000, the water quality of 102 wells on Great Chebeague were sampled, somewhat over-selected for areas that might have problems. Half tested positive for bacteria from things like leaves or a dead mouse, and five, in fairly densely populated areas, tested positive for e coli which comes from septic systems. In 2004 56 wells were retested and a similar though reduced pattern was found.
- Salt: from seawater intrusion which is an issue on Rose, Deer and Division Points. Salt from the roads can also get into the groundwater.
- Toxics: herbicides, pesticides, drugs and chemicals.

Aquifer Recharge

Town residents, and especially residents of Great Chebeague, need to decide how important protection of aquifer recharge is when weighed against other uses of the land.

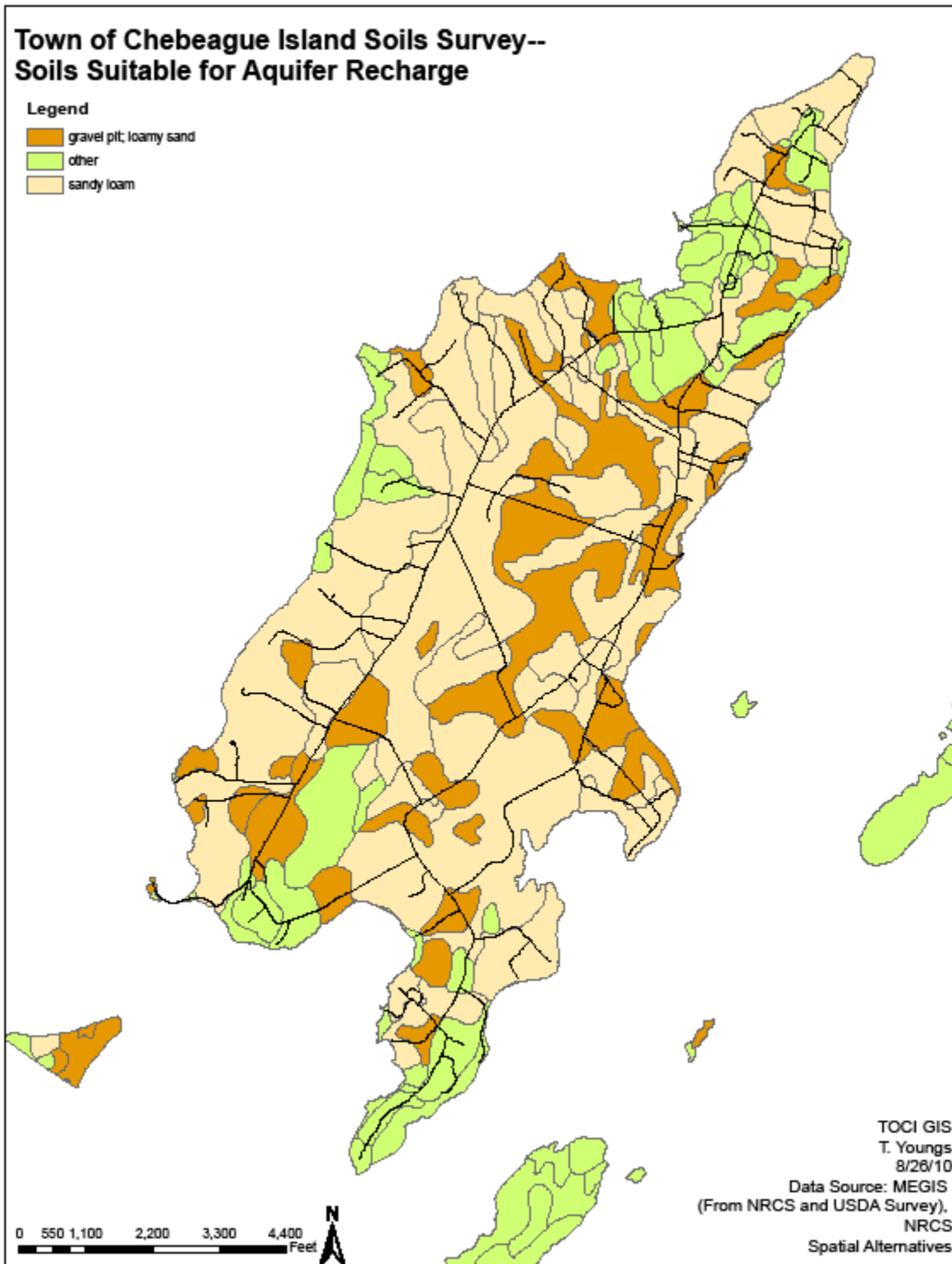
Great Chebeague Island and all the other inhabited islands of the Town have sole source aquifers. Waste that we put into the ground through septic systems, the old dump, spills of things like oil and gasoline can percolate into the groundwater which is also our only source of drinking water. Gravely or sandy soils allow percolation of rainwater and snowmelt to occur faster, and hold the water; this is what it means to be an “aquifer”. As Map 1 indicates these gravely and sandy soils are widespread on Great Chebeague. This means that protection of aquifer recharge areas is a concern, not just in specific areas, but all over the island. The Plan recommends exploring the creation of an aquifer protection ordinance for the entire Town.

Such an ordinance would need to address all the threats to the groundwater listed above: petroleum products, septic waste, salt and toxics. Two more specific issues would also need to be addressed. One is housing and commercial development. This plan recommends defining a large “rural” area in the center of the island, several “growth” areas in which slightly higher density development will be allowed, as well as the basic 1.5 acre development area. Development will continue to occur on the island. Even the “rural” area now has, and will continue to allow development. Because of the widespread distribution of aquifer recharge areas, development of any aquifer protection ordinance would need to evaluate regulations for septic systems and stormwater management measures when development occurs.

Another issue an aquifer protection ordinance would need to address is the mining of gravel. Gravel soils are not only valuable for aquifer recharge, they can also be mined and used for road and other kinds of construction. The island has had a number of gravel pits, particularly near the center of the island. The primary reason for gravel extraction on the island is that gravel, though cheap, is expensive to transport. At the moment the Town brings out truck-loads of gravel, and the barge trip by itself costs \$500.

Gravel extraction is an industrial process that may introduce pollutants into the remaining sand and gravel. But mining gravel poses a more basic problem for aquifer recharge by removing the gravel that filters and holds the water. Once the gravel has been mined and used on roads,

Map 1:



driveways, in septic systems and in construction, it no longer lies in sub-surface layers that provide aquifer recharge. If all the gravel on the island were mined (something that is unlikely) the ability of the ground to hold and supply water would be significantly reduced.

Many other unbridged islands are recognized by the Federal government as sole source aquifers. Most have some form of aquifer protection. It is also important to continue to educate residents about where their drinking water comes from and how it can be kept clean.

A number of other recommendations are made here related to collecting data on wells and septic systems, replacing cess pits which are now illegal but continue to be used, and improving the maintenance of septic systems – an advantage for both the public and the homeowner whose system will last longer.

b. Surface Water

The sources of pollution listed above are threats to the well-water we draw from the aquifer and use at home. In addition, because stormwater runs off over the land picking up oil, salt, herbicides, pesticides and soil, the quality of the islands' waters affect marine resources, especially in-near shore areas.

- Pathogen contamination, can result in shellfish closures.
- Toxic runoff– such as spraying of dimilin to control brown tail moths – can harm marine organisms.
- Excess nutrients may increase the incidence of red tide and other algal blooms
- Sediment in runoff may smother marine life but also nourishes mudflats.

Recharge of the island's aquifer depends on having rainwater permeate into the ground. The longer the distance that rain and snow-melt flow along the ground, the more they are likely to pick up pollutants. This can be minimized by:

- Minimizing “impervious” surfaces such as roads and parking lots which collect pollutants that are then picked up by runoff.
- Slowing runoff down so that sediments can settle out, often carrying other pollutants with them.
- Maintaining vegetated buffers that slow and treat runoff as it trickles through them.

c. Surface Water and Casco Bay

Inevitably some surface water runs off into the Bay as stormwater. The issue with stormwater is that it must be not be allowed to pollute the Bay.

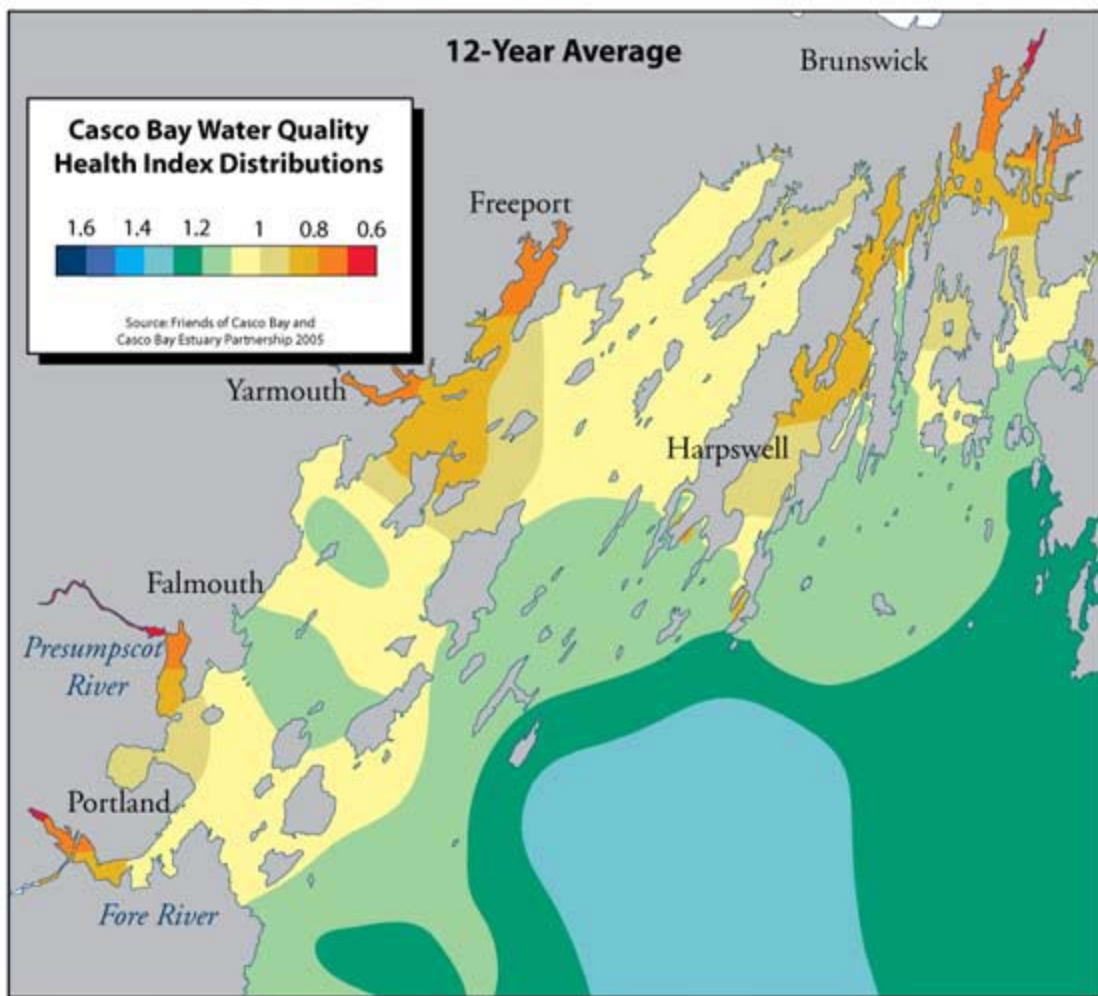
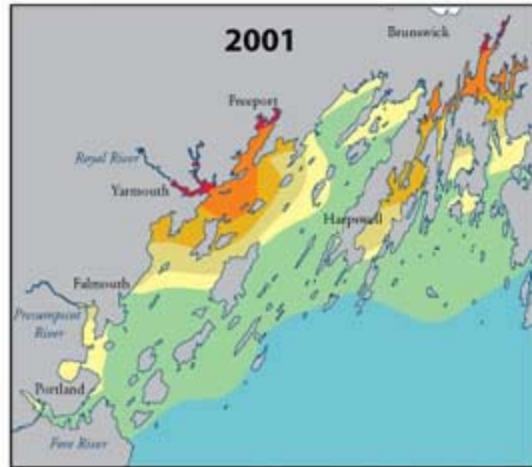
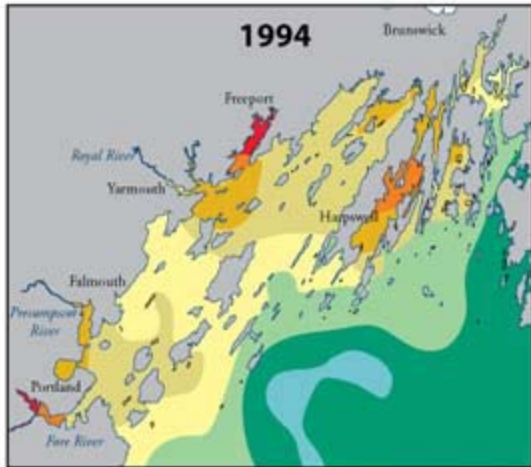
Unlike much of the open Atlantic, the Gulf of Maine is a very productive “garden” rich in microscopic, single-celled phytoplankton. These phytoplankton are eaten by zooplankton or tiny animals, which, in turn, are eaten by larger fish and shellfish. Shoreline areas, including islands, are particularly productive areas. Large tides create more intertidal habitat for animals like clams and mussels. Water near the shore where waves break is more oxygenated. And the shore itself creates areas where there can be up-wellings of nutrient-rich deeper water.

The down side of this high marine productivity is that it can be, in effect, too productive. Nutrients such as nitrogen are necessary for photosynthesis. However, if too many nutrients flow into the Bay from sources such as sewage treatment plants, farm fields, fertilized lawns and street runoff, photosynthesis can run amok, producing large amounts of phytoplankton and green algae. When these plants die, they are attacked by bacteria that consume much or all of the dissolved oxygen in the water, killing all other forms of life. This is called “eutrophication”.

The water quality monitoring done by Friends of Casco Bay throughout the Bay from 1993 to the present, including on Chebeague, indicates that the water quality of the Bay is generally good. There is relatively little sign that there are enough nutrients flowing into the Bay to cause eutrophication. But there is a lot of variation in water quality seasonally, over the years, and in different parts of the Bay. To capture this variation FCB developed a Casco Bay Health Index (Map 2) based on water monitoring readings all over the Bay between 1993 and 2004. The two variables used in the index are the dissolved oxygen saturation and the clarity of the water. The index has a range from .60 to 1.35.

Chebeague’s location in the center of Casco Bay means that it serves, to some extent, as a dividing line between the more polluted waters toward the mainland and the less polluted water out to sea. Much of the pollution of the Bay comes from sources on the mainland such as sewage treatment plants, farm and construction runoff, and road runoff. But even birds and fishing activities on the water can result in pollution. In late summer Chebeague’s most productive clam beds have areas covered with green algae. This algae kills the marine animals beneath it. This is a sign of nitrogen pollution from waste-water treatment plants and fertilizers. Some of this may reach Chebeague from the mainland. But Chebeague is also putting fertilizer into these waters. The Town of Chebeague Island should do what it can to reduce sources of pollution on the islands and in the water itself.

Water, both fresh and salt, is one of the Town’s most precious resources. Understanding the island’s water resources and their issues, monitoring the condition of the resource, and planning to preserve water quality will insure that good water and healthy upland and marine resources are available in the future.



Map 2

2. A Sustainable Community

The human community of Great Chebeague has existed for more than two centuries. It has had periods of growth and decline in its population, and of prosperity and depression in its economy. In these ups and downs the people and the economy have changed, adapted and survived. In 2010 the Town has come through a period of growth and now is caught in a major national recession. Recent growth in the population has primarily occurred among people over the age of 65, while younger people who would make up the future workforce and the island's young families have not been recruited as successfully.

This section is made up of five chapters. A discussion of the Town's changing population defines the issues here. Jobs and the economy are the subjects of the second chapter. The third is concerned with the cost of living. The fourth and fifth chapters focus on the many local services that make the Town a good place to live.

Both year-round and summer residents are strongly committed to maintaining an age-diverse, year-round, working community. But actually making this happen will take work on a number of fronts:

Most working people who live on Chebeague also work on the island or on its waters. If young people are not staying on or coming to the island, it is in part because it is difficult to find jobs that are satisfying, well-paying enough to provide year-round income and that provide benefits that are required to support a family.

The cost of living on the island is also high. The cost of housing has been bid up by the attractiveness of the island to summer people and retirees from away. Year-round working island families find it difficult to compete in this market. And because many basic supplies such as food, gasoline and heating oil, have to be brought to the island by boat, their cost is higher than on the mainland. People, also have to come by boat which means paying boat fare and keeping at least one car on both the island and the mainland.

Even with the high costs, what islanders do have is an exceptional quality of life. The setting of the island in the Bay is beautiful, the island still feels rural and holds to traditions that enable residents to get to the shore and to many other lovely places. The island has a strong sense of community with widespread volunteering that provides a surprising number of services for such a small place. The economy, both on the island and on its waters, is largely based on small businesses and self employment. Every summer the pace of life quickens as lobstering begins and the island population grows with the arrival of hundreds of summer residents, many of whom have been coming to the island for several generations. For many of these people, Chebeague is the common home to which family members from all over the country can return.

2.a. PRESENT AND FUTURE POPULATION

Towns develop comprehensive plans in part because their populations change over time. Planning for future growth is common, but other kinds of demographic changes also require planning responses. Changing population patterns are even more important on an unconnected island because it is more self-contained than many communities on the mainland.

Like the rest of the country, Chebeague has come through a building boom during the last two decades. The impact of this growth on Great Chebeague is primarily experienced in the number of people on the island in the summer, and in the number of places that used to be undeveloped that now have houses.

On the other hand, the size of the year-round population has been fairly stable at about 330 people. It may be growing slowly. Over the past 20 years Chebeague has seen growth in its older population. More important though, at the same time, it has not been replacing its year-round working population. If these two patterns continue, the nature of the community will change significantly. It might well survive as a year-round community, but it would not look like the Chebeague we know now. Chebeague seceded from Cumberland in significant part because SAD 51 would not guarantee the continuation of the Chebeague School which is essential to maintaining a year-round working community. But young families are also needed to sustain the school.

Goals

The Goal is: PRESERVATION OF GREAT CHEBEAGUE AS A VIABLE, AGE AND INCOME-DIVERSE, YEAR-ROUND COMMUNITY.

Recommendation: Carry out the recommendations in this section on Preserving Community.

Recommendation: Develop policies that will retain current young people , and attract individuals and families in the 18 to 40 age group.

Discussion

The Year-Round Population

Counting people in a small place is tricky. Population may go up and down from year to year based on individual people's life choices. In a large place these many decisions "average out" into a longer-term trend. In a small place, however, you may be left wondering whether a 20-person difference up or down over ten years is "significant" or not.

Total Residents: There are a variety of past and current population counts for Great Chebeague Island and for the Town. A 2008 count of residents by the Comprehensive Planning Committee identified 333 people.

Households: The number households seems to have gone down a bit. There were 170 on Great Chebeague in 2000, and 163 for the whole Town in 2008. The household size has also gone down, from 2.09 in 2000 to 1.98 in 2008.

Age: This is where the greatest change is being seen in the Town. The U.S. Census gives counts of population by age for Great Chebeague for 1990 and 2000 and the 2008 Planning Committee count for the whole Town provides a figure for the number of children.

- Compared with the state as a whole, Chebeague has had a smaller proportion of children in its population for many years. Between 1990 and 2008 about 19 to 20 percent of the population were children under the age of 19, compared with 26 percent for the state as a whole.
- The most striking difference between 1990 and 2000 is the decline of in the proportion of year-round residents between the ages of 18 and 29. In 1990 they made up 13 percent of the total population. But by 2000 they made up only 5 percent. This is the age group of people starting new careers and households on the island. In both decades the largest group in this age group is the people from 25 to 29; but in 1990 this included 23 people, while in 2000 it included only 12.

What seems to be happening is that the young people of 1990 are growing older but are not being replaced in sufficient numbers. So, in 1990 there were only 36 people between the ages of 35 and 44. In 2000 there were 56 people in this age group largely because the larger 25-35 cohort aged into the 35-44 age group while the 15 19-24 year-olds moved up into the 25-34 cohort. The problem is that in 2000 the 19-24 year old cohort had only 7 rather than 15 people in it.

Since the 2010 Census will be available fairly soon, it is important to see if this really is a trend.

Chebeague is also getting greyer. In 1990 there were 76 residents over the age of 65. In 2000 there were 88, and the proportion of the population over 65 in 1990 was 22.5 and 25 percent in 2000. This compares with 14 percent of the state-wide population that was older than 65 in 2000. Not only are life-long residents getting older, but since 1990 and especially since 2000 there has been an influx of people, many of whom used to be summer residents, who now have come to live year-round on Great Chebeague. In the future, as the baby boom generation begins to reach retirement age in about 2011, this trend may become stronger.

Population Projection: Probably the year-round population is growing slowly. The Greater Portland Council of Governments used its PACTS transportation econometric model to produce a population forecast for the Town based on the number of building permits for year-round houses issued between 2000 and 2006. This produced a growth rate of eight to nine people every five years or 4.3 to 4.9 percent. This projection has the advantage of being in the middle of the other “growth rate” estimates. In 2018 it is projected to be about 370 or 36 more than in 2008.

The Summer Population

Most of the information on the Town’s population relates to year-round residents. However, the summer population is an important element of the Town’s economy and social life, and is a major user of Town services.

The size of the summer population on Great Chebeague is difficult to estimate in a way which suggests its impact on the island. Summer people own 63 percent of the houses but some of these houses are not occupied all summer. Estimates suggest that at any given time during the summer there may be as many as 900 to 1,400 additional people on the island. An average of 1,700 in July and August is a reasonable estimate.

The only indicator that we have for projecting the increase in the summer population is the number of new summer houses built during the past 20 years. Ten-year projection of that number would suggest that about 100 more summer people would be on the island at any given time if the household size were 3. This would maintain the ratio of summer people owning about 63 percent of island houses which has existed since 1988 and seems to be a workable pattern.

The gradual increase in the summer population will have some impact on things like roads and the capacity of services from the Library to the Transfer Station. On the other side, however, the summer people who own 63 percent of the houses pay taxes that support public facilities and services. They also donate to building and operating funds of non-profits such as the Library, the Rec Center, the Commons and the Historical Society, enabling the island to have more extensive services than the year-round population of 333 could support. And the increase in summer ferry passenger traffic provides the critical mass necessary to operate the CTC ferry, its parking lots and bus system year-round.

Conclusion

The goals of this chapter set the stage for the remaining chapters in this section which deal with the ways that the Town of Chebeague Island may be able to shape its population over the next ten years. The first looks at the economy and how it might be made more attractive to working families. The second deals with the cost of living, focusing particularly on housing and transportation, two of the aspects of the high cost of living on the island that might be able to be changed at least to some degree. The third describes the critical role in the community played by the Chebeague Island School and secondary education on the mainland. The final chapter reviews the many non-profit services provided on the island and the ways in which they serve both working families as well as retirees and the elderly.

2.b. THE CHEBEAGUE ECONOMY

The greatest strength that Chebeague has in attracting and keeping residents is its quality of life – the beauty of the island and its sense of community. There is a certain amount of inconvenience that comes with living on an unconnected island, especially with children in school on the mainland. People make their own decisions about the balance between the advantages and the inconvenience that they can live with. Reducing the inconvenience would encourage people to come and to stay. On the other hand, the cost of living – for housing, transportation, energy and services -- is not just a “hassle” but a real limiting factor to people’s ability to live on the island.

The majority of working people who live on the island also work on the island or its waters. So income for living here comes from jobs here. If the year-round, working community is to survive there has to be a better fit between the money earned on the island and the cost of living here.

This is a difficult problem to solve, and one that the Town has little leverage over. Most decisions about economic activity are made by individuals and businesses. The Town can only attempt to make the “economic environment” a bit “friendlier” for jobs, especially those that have good pay and benefits. There are two ways it can do this:

- One is to try to make sure that Town policies and regulations do not create unnecessary barriers to the creation of businesses and jobs.
- The other is to actively promote economic development of some kinds.

The latter strategy generally takes more time and money to do than the former. Given that the Town of Chebeague Island has limited staff capacity and a constrained budget, the people who attended the public meeting on the economy, and the Planning Committee both felt that it does not make sense to recommend putting considerable time and energy into traditional economic development studies and policies, such as creating a loan fund or making subsidies available to businesses, at least at this point. The one exception to this would be trying to encourage the improvement of internet and cellphone service on the island since they have become essential to economic activity.

In general, however, it may make more sense for the Town to focus on trying to reduce the cost of living on Chebeague to make living on the island more competitive with living on the mainland. This is dealt with later in this section. It is also important for the Town to make sure that its policies and regulations do not discourage businesses to be created on Chebeague

Goals and Recommendations

The Goal is: ASSISTANCE TO BUSINESSES WITHIN THE NORMAL SCOPE OF TOWN ACTIVITIES.

Recommendation: Provide infrastructure that would help significant sectors of the existing economy such as fishing, clamming, construction and local services.

The Goal is: ENCOURAGEMENT OF NEW BUSINESSES AND THE SURVIVAL OF EXISTING ONES, INCLUDING AGRICULTURE AND FORESTRY, BY CONSIDERING THE IMPACT OF THE TOWN'S VARIOUS REGULATIONS.

Recommendation: Revise zoning provisions on businesses, agriculture, animals and timber harvesting and other relevant provisions to remove barriers to these economic activities.

The Goal is: FAST AND RELIABLE HIGH SPEED COMMUNICATIONS

The Town should work with vendors, including chebeague.net, to make major improvements to internet and cellphone service on the island.

The Goal is: INCREASED FARMING AND FORESTRY

Recommendation: Shape Town policies so that they encourage commercial agriculture and forestry including allowing for the infrastructure they require.

Recommendation: Explore in more depth the financial viability of combining forestry, animal husbandry and crops that might revive farming on Great Chebeague.

Recommendation: Identify areas of the island where farming and/or forestry could be encouraged, as distinct from areas that should be kept in open space for other purposes, or which should be open to development.

Recommendation: Explore ways to encourage landowners who are interested in forestry to organize for collective action. Encourage having an overall study of the value and condition of Chebeague's forests.

Recommendation: Encourage landowners to enroll in the State Tree Growth Program with a management plan for the economic use of trees which the Town will actively enforce.

Recommendation: Encourage farmers who qualify to enroll in the State Farmland Preservation Program.

Recommendation: Work with the Chebeague and Cumberland Land Trust to acquire property, easements or development rights to land that could be used for farming or forestry and to include these uses in the easement.

Recommendation: The Town should explore sourcing food and forest resources locally on Chebeague as an economic development strategy.

Discussion

Economic activity within a community is usually divided into "export" activities that bring money into the community "from the outside" and "service" activities that circulate money

within the community. Unconnected islands are different from mainland economic communities in being physically isolated from the mainland, in having clearly defined boundaries and in having a limited population base. In the world of unconnected islands Chebeague is medium-sized. It is also located conveniently close to Maine's major metropolitan area as are Long and Peaks.

In the Portland Metropolitan area, however, it is comparatively isolated; more so than Peaks, though less than Long. It is more cumbersome and more expensive to get to than mainland towns like Cumberland or South Windham that are the same geographical distance from Portland.⁴

By and large export "industries" are less limited by the constraint of the small population on Chebeague. Lobstercatchers or a business like Miller Designs are not limited in what they can sell to the island population since they primarily sell to buyers on the mainland or including other states and other countries.

On the other side, local service providers are generally limited to what they can sell to people on the island. A winter population of 333 is not large enough to sustain many of the businesses and non-profits on Chebeague. However, the increase of population to about 1,700 in the summer is sufficient. A larger year-round population might stimulate additional businesses, but in the visioning survey this was only mentioned by a handful of people as a policy option.

Table 1 shows estimated employment on the island by industry sector. These sectors are not mutually exclusive. For example, education and health are both professional fields but are listed under these categories rather than "professional/scientific". The numbers were compiled on the island and are not from the census. The census data on employment by industry is based on the information from the 1 in 6 people who get the long form. This is too small a sample to be able to generalize to the total island population. The table also includes a number of people who live on the mainland but do most or all of their work on Chebeague as do some fishermen and contractors.

The Chebeague Economy in 2008

On Chebeague the major export "industries" are fishing and summer visitors (including the construction, gift shopping, meals, lodging, services like the boatyard, and recreational activities like golf that are consumed by summer them). These industries use Chebeague's natural resources as their inputs: natural beauty and marine resources. Both vacationing and fishing are largely seasonal.

In addition, one of the primary strategies for making a living on Chebeague where many jobs are seasonal, is to work at several jobs. Six people on the Zone F lobstering list are also on the list of homebuilders on Chebeague, for example. So by counting jobs, the table double counts people with more than one job.

⁴ The distance is about 6 miles. A 20 minute door-to-door drive from Portland to Cumberland is equivalent to an hour's trip to Chebeague, which also involves 2-3 changes of "transportation mode (car to boat for example), and an additional cost beyond the cost of driving of \$5.25 for parking and ferry fare.

Table 1: Employment by Sector, 2008⁵

Sector	People who live & work on Chebeague	People who live on Chebeague & work on the mainland	People who work on Chebeague and live on the mainland
Agriculture & forestry	2		
Fishing	70		5
Quarrying	1		
Construction	14	1	7
Manufacturing	8		
Wholesale Trade	1		
Retail Sales	7	2	
Transportation	13 ⁶	2	
Maintenance	7		2
Information	5		
Finance & Insurance	0	3	
Real Estate	1		
Professional, Scientific & Technical	3	14	
Education	7	4	8
Health	6	4	1
Food & Accommodation	16		18 ⁷
Management of companies	1	1	1
Arts	2	1	
Recreation	3		
Other service (cleaning, car repairs, gasoline, propane etc.)	12	1	2
Public service	10	1	3
Totals	189	34	47

Island Export Industries*Fishing*

Fishing is obviously the most common occupation, and as an export industry, is a major contributor to the island economy.

⁵ Many of the jobs on the island are part-time and/or seasonal, while jobs on the mainland are more likely to be full-time year-round.

⁶ CTC has an additional 11 employees who do not live on Chebeague and who work on the mainland.

⁷ 11 of these live during the summer in Chebeague Inn facilities on the island.

State-wide the lobster fishery boomed starting in about 1990 as ground-fishing and other kinds of fishing declined, and no limit was set on the number of traps a lobsterman could have. In 1973 the number of fishermen in Maine with a majority of their income from lobstering was 2,500. By 1998 it was 5,500. The lobster catch increased from about 28 million pounds worth about \$112 million in 1990 to the peak of about 93 million pounds in 2010 with a value of \$308 million.

Throughout this period of change, Chebeague reflected the state-wide pattern. The number of lobster licenses issued to Chebeaguers increased steadily from 49 in 1990 to 63 in 1996. In 2000 Chebeague had 54 licenses and 45 lobster boats, fishing an estimated 35,000 traps.

The dramatic increase in lobster landings was not only due to an increase in the number of lobstercatchers. Changes in technology also encouraged more intense fishing effort. Larger, faster boats with more electronic gear including GPS and more allowed lobstermen to increase the number of traps they fished and to shift traps from place to place more easily to take advantages of changes in migration patterns. The size of traps also increased from one-parlor to two. These changes in technology made lobstering more capital intensive and harder for young fishermen to enter because of the cost.

On Chebeague the number of the largest lobster boats with more than one crew member grew in use during the 1990's from 1 in 1990-91 to 10 in 1995-96. These boats allow lobstermen to follow the migrating lobsters out further to sea in the winter. Perhaps because they also involve higher costs of operation, the number declined gradually to 5 in 2007-08.

The rise in the numbers of lobstermen and the number of traps through the 1980s and 90s, increased the pressure on the lobster resource. In 1995 the State adopted a limit of 1200 traps per lobsterman, which may have actually encouraged more widespread adoption of the "more efficient" technologies, since the law did not limit the number of people who could get lobstering licenses. The State did, however, divide the coast of Maine into seven lobster "zones" in which fishermen would play an active role in the management of the resource.

Chebeague is in District 3 of Zone F and it has a representative on the Zone F Council elected by the lobstermen on. Communities such as Harpswell, with more fishermen, have several representatives. In Zone F the total number of traps per license was reduced to 800 by the year 2000.

Local councils including the one in Zone F have also reacted to the boom growth by adopting stringent requirements for entry into the fishery, allowing only one new lobster license for every 4,000 trap tags retired. People who want to become licensed lobstercatchers must serve an apprenticeship as a sternman. It may take as long as 10 years to get a license, and when they get one, initially they can only have 300 trap tags. Given the capital costs of going into lobstering, this number of traps may be enough traps to support a family down east, but it is not enough in Casco Bay.

On Chebeague this restriction in the issuance of licenses, combined with the gradual aging of the large cohort of lobstermen from 2000 have reduced the number of lobstermen, and particularly

those younger than 50, significantly.⁸ In 2010 there were only 34 lobster licenses issued, 22 fewer than in 2000. Nine of these 22 people no longer lobstering from Chebeague, still live on the island but have retired or given up lobstering. Three died. But ten others moved off the island including seven who gave up lobstering as well. Only two new people on Chebeague became license-holders between 2000 and 2010, and one of them was among the ten people who later left the island.

The lack of recruitment of young lobstercatchers means that in 2010 only 8 (26 percent) of the license holders were under the age of 50 compared with 35 (67percent) of the license holders in 2000. Many of the baby-boom lobstermen are likely to think of retiring within the coming ten years, and without further recruitment of younger fishermen, the number of lobstercatchers will decline dramatically. This shows the impact on Chebeague's major industry of the decline in young people on the island described in the chapter on Population.

So why does Table 1 still show 70-75 island people involved in fishing? Of the 34 licenses, 27 were licenses for a boat with a sternman, and 5 other boats that fish in deeper waters have two additional crew. Most of the crew members live on Chebeague during the summer and some, year-round.

Lobster Landings

There is no source of data on lobster landings for the whole town. However we do have information from 2004 to 2007 for Dropping Springs Lobsters, LLC. This "coop" includes 18 of Chebeague's lobstercatchers. They have a float near the Boatyard (at Dropping Springs) where they buy lobsters. Non members can sell to the coop, and in 2007 18,400 pounds were sold by non members. Members of the coop landed a yearly average of 326,330 pounds of lobsters between 2005 and 2007, worth an average of \$1,389,300 per year. Of this gross, about 73 percent went to expenses, particularly bait, for a net of \$375,111. Dropping Springs has one full-time employee during the season with several part-time helpers.

Though one of the major expenses for the lobstermen is bait, not all the money spent on bait is lost to Chebeague. Dropping Springs Lobsters, LLC has spun off a bait business that also sells both to members and non-members. It employs a manager throughout the year and two to three part-time workers in the summer.

Chebeague's lobster industry was hard-hit by the economic crash of 2008. This experience prompted the lobstermen to work on strategies for gaining more control over the marketing of, and adding more value to the price of their product. They have established the Calendar Islands Maine Lobster Company to process, brand and directly sell their product. This represents a significant change in the financing of the fishery. Chebeague lobstercatchers are all individual entrepreneurs. The processing and marketing company, however, requires investment not only from the lobstermen, but from outside investors as well.

This new business seems to be taking off successfully. It is not the role of this Comprehensive Plan to recommend what Calendar Islands should do, but it can recommend that the Town, island voluntary associations, and the Island Institute which has also been involved, support these

⁸ This information on the current lobstermen was provided by Jeff Putnam.

efforts whenever possible. It might also provide a model for cooperative efforts among small entrepreneurs in other areas of the Chebeague economy.

Another opportunity is also opening for more local control of the lobstering industry. Until this year, the state did the reallocation of lobster licenses which meant that if three lobstermen on Chebeague were to retire their licenses, the young lobstercatcher allowed to get a new license might not be from Chebeague.

However, the 2009 Legislature passed a law that allows islands to opt for a new, island-specific waiting list and reallocation process. If 10 percent of the lobster-license holders on an unconnected island petition the DMR Commissioner, and two thirds of its license holders vote in support, the Commissioner can set up a limited entry, island-specific zone. The vote would also suggest the number of licenses required on the island. The Commissioner can accept or reject that number based on consultation with the lobster management zone council for that area. Such a system could help keep young or potential lobstermen on the island or attract new ones. The Chebeague lobstermen have begun the process of petitioning DMR to create a Chebeague zone.

So lobstering is one of the Town's two major "export industries". More than that, however, the lobstercatchers define much of the way of life and identity of the Island. Dropping Springs and Calendar Islands lobster companies are the latest effort to work together to increase the profit from lobstering. The possible reduction of entry of young lobstercatchers has been seen not just a problem for the current lobstermen, but as a problem for the whole community.

Clamming

Clamming is no longer a major direct contributor to the Chebeague economy. It currently provides income to some fishermen, and now that there is very little scalloping in the winter, if additional licenses were available, it might play a larger role, particularly if the general economy is in recession. Clamming is also one element in the Town's vacation economy.

Summer Residents and Visitors

Since the first "recreators" began to come to Chebeague in the 19th century, vacationers have been a changing and significant part of the island's export economy. It is also a seasonal "industry". It is also one that can fluctuate from year to year, though having many "summer natives" whose families have been coming to the island for generations, moderates this problem.

Food and accommodations which is substantially an "export" industry employed 34 people in 2008. The pattern of ups and downs in this sector shows the impact on island employment. The Chebeague Inn has recently had several changes of ownership. In the past, as the table indicates, it generally hired as many as 14 year-round and summer residents, and used more than a dozen island suppliers of goods and services. But these jobs cannot be counted on. The Inn was closed altogether for the summer of 2007, and the most recent management has hired few islanders. In addition, in 2008 both bed and breakfast inns on the island closed. The Orchard Inn reopened under new management for the summer of 2009 but closed again.

The Boatyard serves both fishers and vacationers in different ways year-round. It is in the process of rebuilding and has added a building that includes a new year-round gift shop and the Post Office.

Retail sales and jobs also are also more numerous in the summer. The pattern of several small eateries and gift shops has been stable for many years, though their ownership and location on the island changes. The major retailer on the island is Doughty's Market which is open all year round but does much more business in the summer.

Construction is also substantially an export industry. The construction of summer houses between 1998 and 2008 continued to grow, reaching 3.9 houses per year which translates to a growth in the summer population of about 15 percent. Indeed, so many houses were being built (5.5 per year including year-round houses) that many people hired builders from the mainland.

The primary economic advantage of the summer residents and visitors is that they bring a lot of income into the island economy, not just for obvious things like gifts and meals, but also to support island non-profits with both volunteers and money.

The economic problems associated with this area of the economy are that jobs are often seasonal and some do not pay very well. Since there are not a similar number of winter-only jobs, people who can find jobs in the summer may not be able to put together a reasonable year-round income.

While the basis of Chebeque's summer economy is vacationers who own homes on the island and there is a feeling that "day-tourists" should not be encouraged, the real issue here is "what kind of day-tourism?" Low impact visits like the people who come out to walk, bike or play golf, who come to a program at the Historical Society, or who enjoy themselves on the Town's waters may be quite different from the loud-voiced tourists in Hawaiian shirts of people's fears.

Retirees

Retirees are also, in a way, an export "industry". Even life-long island residents bring in income from Social Security. People who move to the island in retirement often bring pension or other income as well, most of which comes "from away". Some retirees are snowbirds who go south or simply to the mainland in the winter, but many live on the island year-round.

The services that particularly serve the elderly on the island are provided by non-profits such as the Island Commons which are dealt with in the chapter on the Cost of Living. Retirees often volunteer for the non-profits as well, creating a universe of work parallel to the regular economy.

Manufacturing

There is a small amount of hand manufacturing of craft goods such as jewelry, wooden objects, and boats, much of which is sold off the island. These rely somewhat but not completely on raw materials that have to be brought from the mainland. Other inputs that could be grown locally and used in small-scale manufacturing would include wool and food products grown on Chebeague and processed here. It is a short step from crafts to arts – painting, sculpture and literature, for example, that would not require a lot of imported materials. Selling local products

on the internet and shipping them from Chebeague would require bringing in shipping materials, so smaller would be better, though if the value added to the initial inputs is substantial, the cost of imported inputs might be less an issue than the hassle of getting things to the island.

Agriculture and Forestry

The Town of Chebeague Island has only one commercial farm and one commercial timber harvesting business now, so farming and forestry are a very small part of the present economy. On the other hand, having more farming and forestry on the island would accomplish two important goals in this plan: creating jobs and preserving the island's rural character. It could also be an additional export industry. Reviving agriculture and timber harvesting may be a long shot for Chebeague, but they could work together to help to keep the island community sustainable in human and environmental terms.

A more detailed discussion of how the combination of forestry and farming might work to create jobs and income is found at the end of this chapter.

Jobs on the Mainland

The income people earn on the mainland comes back to Chebeague, and commuters probably spend a similar proportion of their income on the island as people who work on the island do. Typically, jobs on the mainland are full-time and year-round, so they provide a more stable source of income than many island jobs do.

CTC sells commuter ticket books which primarily are bought by people working on the mainland. The number of commuter books sold has declined very gradually from 35 in 2000 to 26 in 2008. In Table 1, 34 jobs are shown as work on the mainland.

There are also several telecommuters on the island. Many respondents on the survey suggested that this would be a particularly appropriate growth area for jobs on the island. But the current examples suggest that people who already have jobs that use the internet extensively may then be able to live on the island, but there may not yet be a significant number of employers looking for new employees who work from home. In addition, Chebeague's internet service, while "high speed" is not sufficient

Service Industries

Service businesses typically do not bring in money from outside of the community but provide services needed by island residents, circulating money within the community. This is the case of "taking in each other's laundry." The section on summer residents and visitors has indicated that this is not a clear-cut line in a place like Chebeague, since the income from summer people allows for the survival of service businesses that probably couldn't survive on the demand of 333 year-round residents alone.

Even so, businesses that operate year-round are the base of Chebeague's service economy: groceries, heating/cooking fuel (including wood which is the only one produced locally), gasoline, taxi service, car repair, island delivery, internet, housing construction, landscaping and lawn/tree-work. In recent years the creation of non-profits like the Library, the Commons and the Rec as well as the creation of the Town government have generated a variety of new year-

round service jobs. While the Post Office, the Town and the Island School always employed some island people, they now employ more, and are more conscious about doing so.

Of course, to the extent that the island depends on bringing workers *from* the mainland to provide goods and services out here, we are also losing income. Some fairly basic services such as car repair and furnace maintenance depend in whole or in part on people who come out to the island. They are shown in Table 1. Many other workers are brought out to do specific jobs such as construction, either for a period of days or months; while some come out, sometimes to provide services to several clients for just a single day. These latter services range from septic system pumping to piano tuning.

Ownership of Businesses and Employment

Chebeague's economy has many small entrepreneurs and organizations and two larger companies, one local and the other not. It has a number of incorporated businesses, including non-profits, and self-employed people – the mix of the two is difficult to pin down. The Census says that in 2000 Chebeague had 74 self-employed workers in their own businesses compared with 77 wage and salary workers and 25 government workers. As indicated above, these extrapolations from the long form are probably not very accurate, but this gives some idea of the nature of the employment. Fishermen are largely self-employed. Most of the island contractors work alone or with a single helper. By contrast, in Cumberland County as a whole only 15 percent of workers are self-employed.

Looking at incorporated business, the 2006 ZIP Code Business Patterns indicated that ZIP 04017 had 17 establishments with 62 employees. This listing does not include self-employed people. At the large end of the incorporated businesses are the CTC with 25 year-round employees (12 full-time) and operating expenses of \$977,000; and the Chebeague Inn with 30 full and part-time summer, and two year-round employees. The former is owned by stockholders, mostly on Chebeague. The latter is owned by a family from the mainland.

Chebeague's Role in the Portland Metropolitan Economy

Chebeague has always been part of the Portland metropolitan area even when that economy was much smaller than it is now. However, since the 1960s, as the metro area has grown in population and area, and ferry routes on Casco Bay have changed, Chebeague's focus has shifted away from downtown Portland, particularly to the suburban areas to the north – Falmouth, Cumberland, of which Chebeague was a part until 2007, and Yarmouth.

Being close to Portland and other parts of the metro area is clearly an advantage to Chebeague. Frequent moderately convenient ferry service to a metropolitan center for work, entertainment and services attracts residents. Among all the 14 unattached islands in Maine, total ferry trips per person in 2005 were highest for Peaks, Long and Chebeague because of this. This is also probably why Chebeague has the largest proportion of elderly people of any of the islands except Great Cranberry. Retired people do not have to make the daily commute to the mainland, but they can easily go when they want or need to.

Chebeague also contributes to the Portland area. The Island Institute's study of the cumulative economic impact on Cumberland County of all of the year-round Casco Bay Islands estimates that

the approximately 2,200 households who reside on the islands for some or all of the year account for approximately \$64 million in consumer spending. That is one measure [of

Cumberland County Full Employment Forecast for 2025

Municipality	2000 jobs	2025						
		Manufacturing	Residual	Trade	Services	Total	Net change	% change
Brunswick	16,816	650	1,068	3,778	13,784	19,280	2,464	15%
Cape Elizabeth	1,987	57	183	256	1,621	2,117	130	7%
Cumberland	1,603	48	313	137	1,564	2,061	459	29%
Falmouth	6,013	197	1,137	1,243	4,764	7,341	1,328	22%
Freeport	8,564	316	479	6,048	3,858	10,701	2,137	25%
Gorham	5,756	569	1,190	810	4,072	6,641	885	15%
Gray	2,667	151	734	713	1,427	3,025	358	13%
New Gloucester	866	71	258	123	1,422	1,875	1,008	116%
North Yarmouth	523	18	223	31	303	575	52	10%
Portland	94,916	3,612	16,324	12,102	77,624	109,662	14,745	16%
Pownal	181	16	54	24	124	217	37	20%
Raymond	1,383	401	121	187	890	1,599	216	16%
Scarborough	13,594	670	3,474	3,647	10,339	18,130	4,536	33%
South Portland	30,137	2,288	4,103	8,899	21,091	36,380	6,244	21%
Standish	2,465	265	430	461	1,637	2,794	329	13%
Westbrook	13,253	2,277	3,292	2,069	7,188	14,827	1,573	12%
Windham	6,664	284	801	2,122	4,741	7,948	1,284	19%
Yarmouth	4,597	431	1,121	1,179	2,504	5,236	639	14%
Rest of County	6,769	618	982	1,484	4,799	7,882	1,113	16%
Cumberland County	218,753	12,939	36,287	45,313	163,751	258,290	39,537	18%

Source: University of Southern Maine's Center for Business & Economic Research and Greater Portland Council of Governments

the size of the islands' economies.] The approximately 180 enterprises – businesses, non-profit entities and government agencies – that operate on and around the islands employ nearly 800 people and generate “sales of nearly \$70 million. [An estimate of the direct and indirect impacts of this economic activity indicates] that the total economic impact on the Greater Portland economy from the island economy amounts to \$116

million in business sales, supporting over 1,650 jobs earning total income of just over \$50 million. These figures indicate a sales multiplier for island economic activity of 1.6, an employment multiplier of 1.4 and an income multiplier of 1.5.⁹

This report did not explore economic differences among the islands. It emphasizes the seasonal nature of the islands' populations and spending patterns. About 36 percent of the estimated \$64 million spent by island households in the County in 2007 was spent in the July-September quarter. The major employers for all the islands are fishing (employment of 110 people) and construction (employment of 125 people).

Though Portland is the state's major city, farming, forestry, fishing and tourism are all still important sectors in the Cumberland County economy and these sectors have continued to grow, though not as much as growth in retail and service jobs. One of GPCOG's goals is to support working farms, forests and waterfronts. Moreover, the agriculture, forestry and marine/aquaculture sectors are seen as future technology-based economic clusters in which geographically concentrated knowledge, innovation and entrepreneurship drive the development of new business forms that are environmentally sound and sustainable. If Chebeague chooses to focus on making continued use of its natural resources it may be able to take advantage of County services such as its revolving loan fund and Micro-Enterprise Centers intended to strengthen new and expanding micro-enterprises (businesses with fewer than 5 employees).

Finally, GPCOG's regional job forecast for 2025 indicates that Chebeague would be in a favorable position to take advantage of future job growth on the mainland. This forecast was done before the 2008 recession began and before Chebeague became a Town, but it still may be useful in thinking about trends that might affect Chebeague.

The major one is that the projection estimates that when the economy grows again, there will be fairly substantial growth in jobs in the Portland-North area. Falmouth, Cumberland and Yarmouth are expected to see growth particularly in service jobs, while, as one might expect, Freeport may have more growth in the trade sector.

In the normal course of its business, and as it works on the high cost of living on the island, the Town can help the economy develop even though it does not have the capacity to mount a major economic development effort. The Comprehensive Planning Committee, however, makes one exception to this general approach. The Town should work actively to improve its telecommunications. In this fast-changing field, that has become central to much economic activity, the Town should not allow itself to fall further behind. Having good internet and cellphone service could help to alleviate a number of the weaknesses of Chebeague's economy without physically connecting it to the mainland.

Agriculture and Forestry?

The islands that make up the Town of Chebeague Island had many active farms in the 19th century, two of which lasted into the 1960s. Great Chebeague, in particular, has good soils, with large areas classified as "farmland of state-wide importance". But essentially both farming and

⁹ Planning Decisions, Inc. *An Economic Inventory and Impact Analysis of the Casco Bay Islands*. Rockland ME: the Island Institute, Oct. 1 2008.

forestry have declined over the 20th century to almost nothing. Most, but not all, former farm fields have grown up in woods and houses.

Even so, even Great Chebeague, the most developed of the islands, still feels rural, and residents said in the planning survey that they wanted to maintain this rural character. So it seems reasonable to try to encourage a revival of farming and forestry as forms of economic development that may be well-suited to the island.

There is a lot of interest nationally in small farms now. It goes with the growing interest in eating seasonally and locally. It would certainly be possible to grow vegetables and fruits on plots of one to ten acres. Vegetables grown outdoors and in greenhouses, cows, sheep, goats, chickens, turkeys, orchards of apples and peaches, small fruits like raspberries, blueberries, strawberries and maybe cranberry bogs would all be feasible crops. These could easily be sold on the island, but with Portland a short boat trip away, growing for restaurants and farmers markets could create a new export industry.

The benefits of farming and forestry could include employment and income, the availability of local food and energy sources, and reduced shipping costs for food and fuels. Farming and forestry could provide mechanisms for fire control – firebreaks, fire ponds and the addition of equipment that could be used for fighting fires. They would provide more open space and wider views and could encourage clustered neighborhoods, with buffers and windbreaks. They could also encourage soil enrichment and a more varied, healthier flora and fauna.

Suitability of the Land for Farming

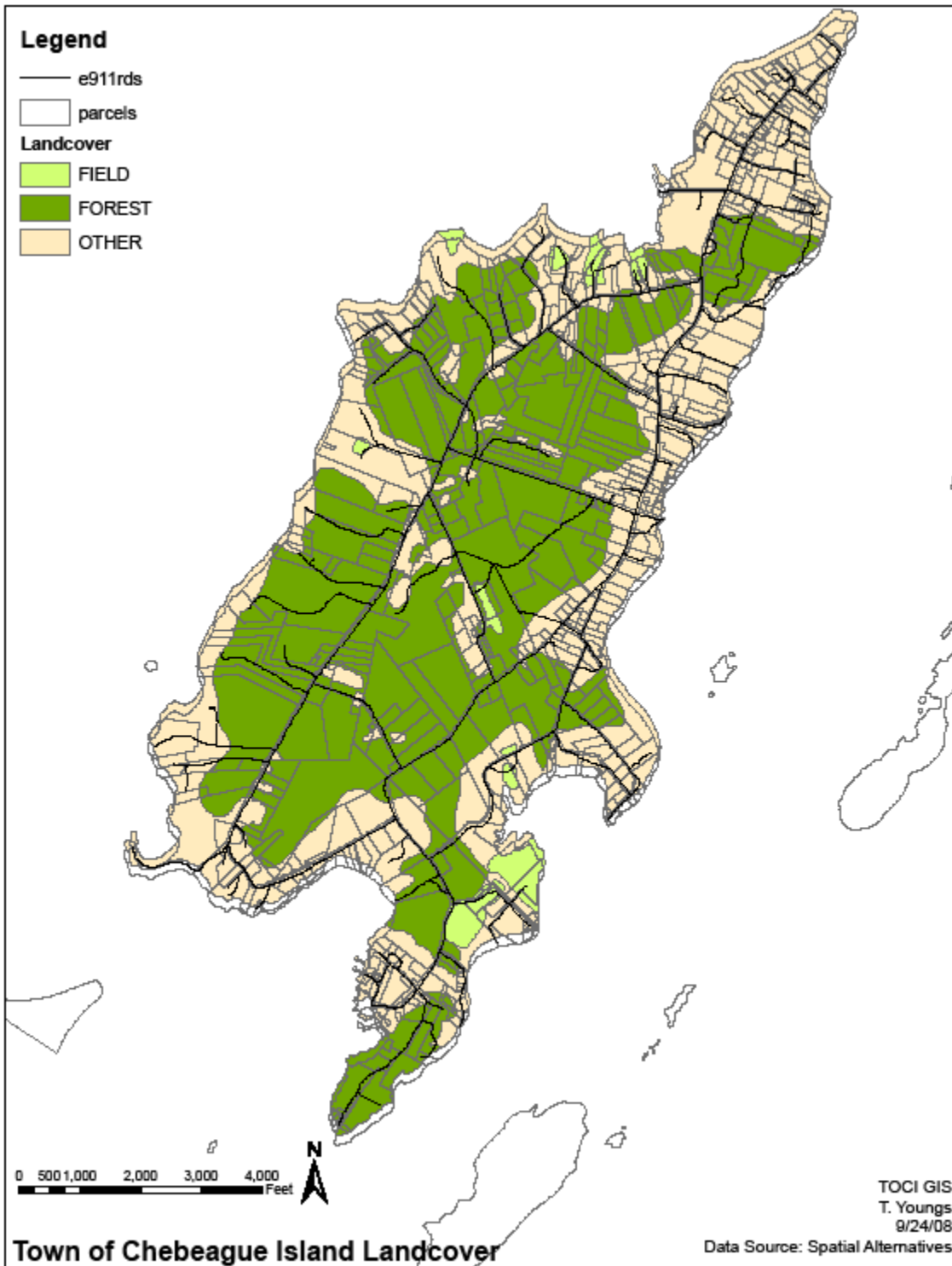
Because of the moderating effect of the Bay's waters, Chebeague is two growing zones warmer than areas at the same latitude but inland. This means that the growing season is longer. Fields with a southern exposure also get stronger light. It is now also becoming more common to grow crops in hoop houses that can go through the winter.

The fairly general information in Map 3 about Chebeague's soils indicates that there is good farmland on the island though not all of it could easily be used. This is unusual for a Casco Bay island. Most of the others have very sparse soil.

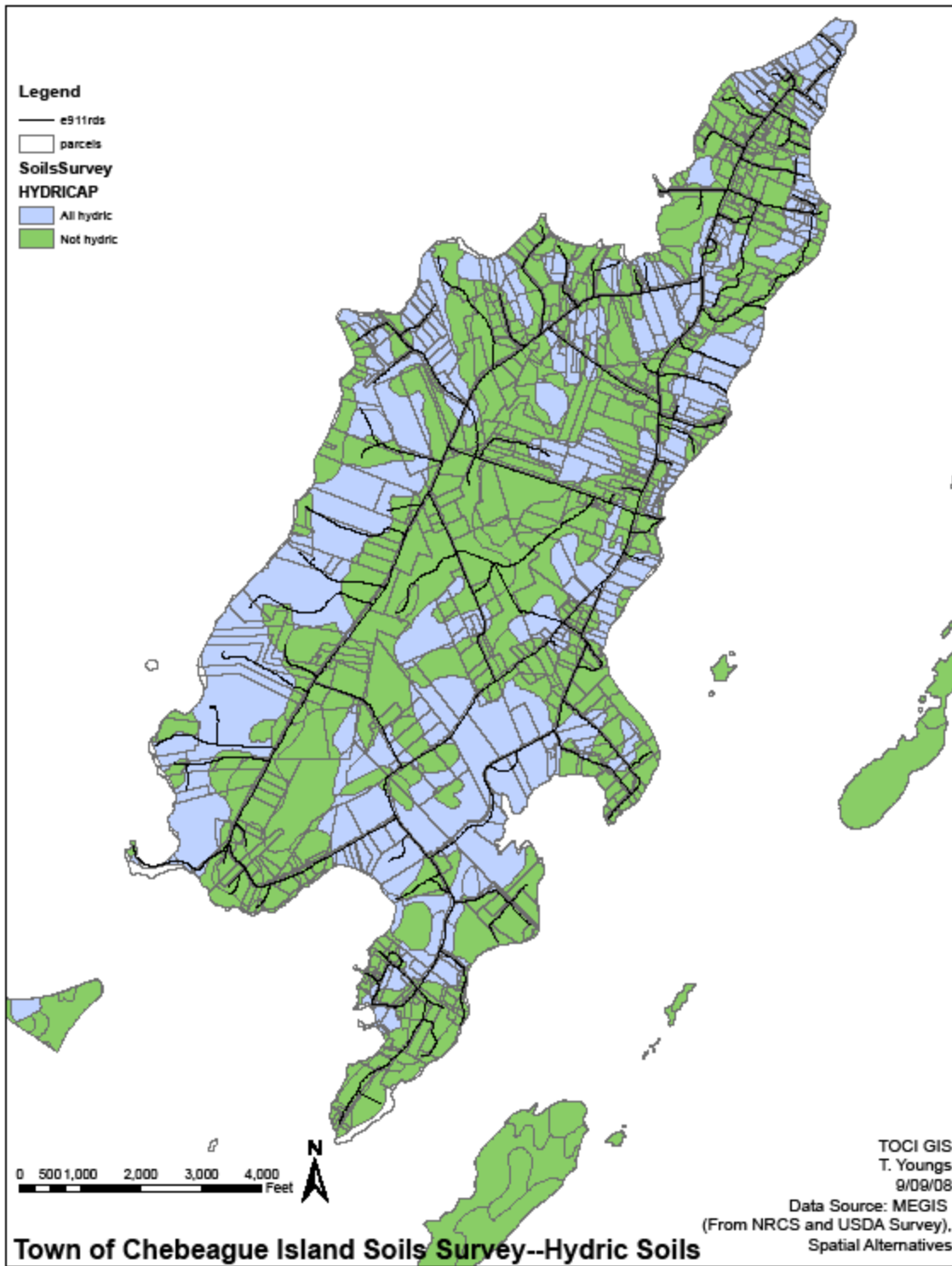
Map 2 does indicate that the island has a great deal of hydric soil which would normally be considered too wet to farm. But there still is a lot of non-hydric soil on the island is along the spine in the middle of the island between North and South Roads that is "farmland of state-wide importance. This area in the middle of the island is also somewhat less developed and still has sizeable parcels by Chebeague standards. This suggests that this area could be farmed. It has been designated as "rural" in the future land use plan which would encourage it to be used for farming.

Barriers to Farming

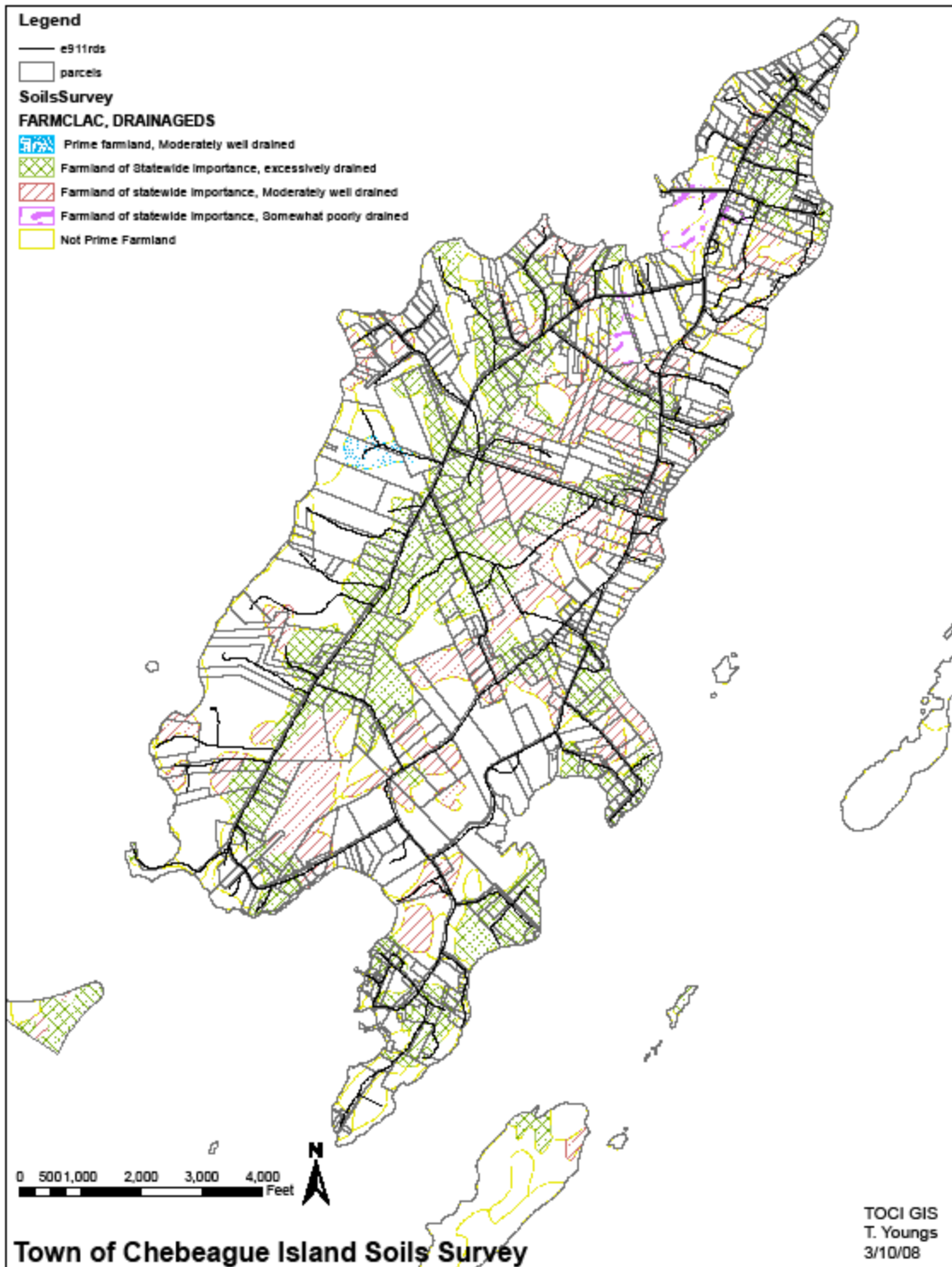
Two basic factors have contributed to the loss of farm and forest land, and neither one is likely to be changed. The first is the subdivision of the land into many small parcels which makes modern "industrial" farming impossible. The second is the zoning of all land for 1.5 acre residential/commercial lots, something this Plan recommends should continue.



Map 1: Landcover



Map 2: Hydric Soils on Great Chebeague



Map 3: Soil Suitability for Agriculture

Chebeague does have some land that was farmed in the past which is still open. These areas also have suitable soils for farming. However they demonstrate several other difficulties in reviving farming on Chebeague. The first is that since land on the island has come to have value largely for housing, it is very expensive for growing crops or pasturing animals. Moreover, these open fields belong to individuals and organizations like the Land Trust who are not farmers.

However, as the land cover map (Map 1) shows, that most of the island, and especially the central area where there are good soils and less existing development, is covered with trees. Two sizeable fields in this area with land of statewide importance have recently been cleared for farming -- the Bisharat field and Second Wind Farm/Durgin land. A few crops can be grown on forested land, and work is being done on exploring this. But farming normally requires open fields, and cutting trees is hard work. Stumps are not allowed in the brush dump. Even when the land is clear it must be prepared for growing crops. The whole process is expensive and time-consuming.

Farming also requires investment in land, buildings, machinery and animals/plants/seeds. If farmers wanted to process farm goods – for example milk into products like cheese – additional equipment would be needed. Farming cannot be economically viable unless the profits are commensurate with the investment required.

A Way Forward?

Scale: As the introduction to this discussion indicated, there is a lot of interest now in quite small farms growing produce for local sale. Chebeague could not grow commodity corn or soybeans on huge fields. But why should it? Commercial farming today does not necessarily require large acreage. The State's Farmland Preservation Program, which parallels the Tree Growth Program, only requires five contiguous acres in land that is used for farming. The real test is that the land must provide the owner with \$2,000 gross income from farming per year.

Agriculture and timber harvesting are still allowed in the Town's current zoning districts and animal husbandry is allowed as a special exception. Both are done on a small scale even now, and retaining them in a revised land use ordinance would not be unreasonable.

Ownership: It is possible for an island farmer to buy land at the price it would sell for housing. But it may not be essential. If the Town and Land Trust are successful in preserving open space, it may be possible to include provisions in conservation easements that allow for the rental of the land for farming. Much of the area in the center of the island that has good farmland has been designated in this Plan as "rural" and designated as an area suitable for public and private conservation efforts and expenditures.

Cost of living: The cost of living on Chebeague is also high because of high costs for housing, energy and transportation. This Plan suggests ways in which these costs might be reduced.

Investment: The Amish manage with less land because they have less capital investment that has to be supported from the revenue generated by the land. In addition, income can be increased by growing high value, perishable crops close to a large market in Portland – peaches or asparagus rather than corn or soybeans. This is similar to the logic of lobstering for shedders.

The Forest Cover: Timber harvesting, grazing and tillage can be seen as a continuum. Land that was used for crops and grazing in the past has grown up into forest. It can go the other way as well. Trees cut to clear land would have economic value if forestry were viable economically on the island (see below on forestry). When forest is cleared it leaves an open area full of stumps, treelets and brush, not ready for growing crops. Animals such as sheep and goats (which even eat bittersweet) can make scrub land into pasture, even with the stumps. Grazing improves pasture. Ultimately, with stump and rock removal it can then become crop land if the soils are adequate and water is available. This continuum suggests that forestry, animal husbandry and production of fruits and vegetables could all be pursued simultaneously if other barriers to renewed farming and forestry were reduced.

The grazing land required per animal depends both on the animal and on the nature of the soil and its moisture. Two animals per acre might be in the ballpark, but it is important to understand that this requires four times the basic amount of land so the animals can be moved around to avoid over-grazing in any given area. Also fencing is required and electric fencing does not work on the thick coats of sheep unless it is raining. On the other hand, Chebeague has no predators that would bother ruminants – no coyotes; and foxes mostly eat rodents.

Possible Problems with Farming

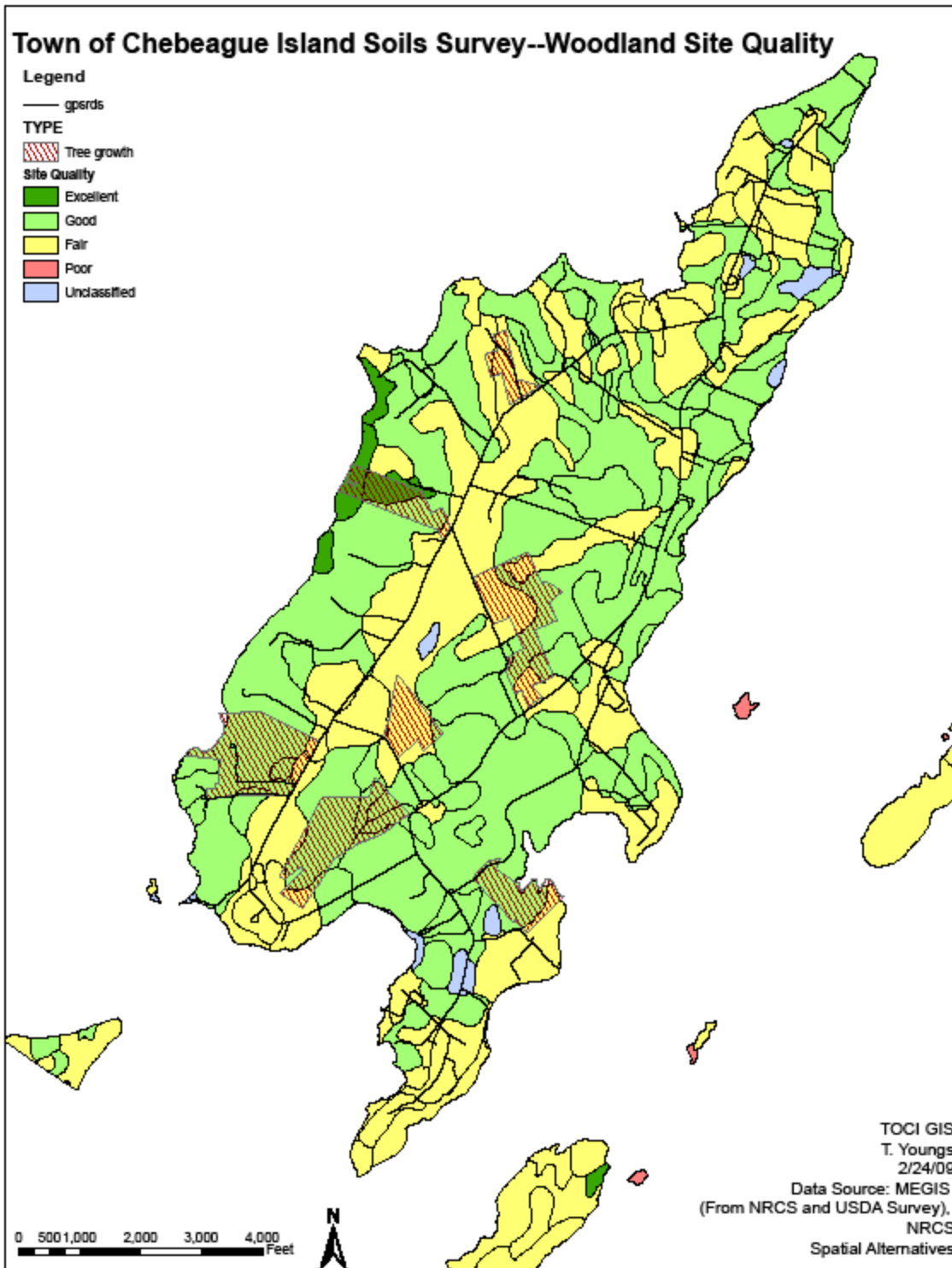
Farming would certainly bring with it some possible problems that would have to be dealt with: stormwater runoff that may be polluted, and conflicts with neighbors over farming noise and smells are cases in point. Clearing land for pasture and crops could change the look of the island considerably. New visitors are often quite surprised to see so few trees in pictures of Chebeague during its farming days.

But probably the major issue with the idea of returning to farming is simply finding people who are willing to do the hard outdoor work that is involved. There seems to be some renewed interest in farming among young people. And there are immigrant groups coming to Maine now who have been farmers. Would the island be welcoming of these possible new residents?

Forestry

The State Forester who came to look at Great Chebeague's forest said that the best use of the land would be for agriculture. And, as was already indicated, having some timber harvesting capacity on Chebeague is probably essential to any revival of farming. Beyond that, does Great Chebeague have forest suitable for making a living from forestry? Normally the minimum size for a viable logging operation is 400 acres and requires a pulp mill. Chebeague clearly does not have this amount of forested land in single ownership, and probably would not want this kind of forestry anyway.

At this point there is relatively little use of the island forest resources. Trees are mostly cut to clear land for building and for landscaping, or they fall down in storms. Chuck Varney has been milling wood and it has been used for sheds, houses, wharves and benches. Local wood is used for boats, floats, pilings, breakwaters and small wharves. But most people who build, buy their wood on the mainland because even adding the transportation cost, it is still very cheap.



Map 4: Soils Suitable for Tree Growth

The Wood Resource

As Maps 3 and 4 indicate, soils that are good for growing crops are also generally good for growing trees. Because of this much of Great Chebeague is now wooded. Most of this is second growth – white and Norway pine, spruce, yellow ash, white birch, swamp and some sugar maple, horse chestnut, and beech -- between 50 and 100 years old. On the mainland the trees could live longer, but in the island climate, the limit is about 100 years. Much of the wood on the island is ready for harvest.

The value of the wood on Chebeague is unknown. Better information about the value of the trees on Great Chebeague and what they might be useful for is essential for making decisions about whether some land is better for farming than for tree growth, what kind of harvesting might make the most sense and how the land might be managed as forest over time.

Possible Uses

As with agriculture, it would only be practical to try to encourage forestry as a form of economic development if it could be done profitably on a relatively small scale and would not require the product to be transported to the mainland unless it had a high value. Possible uses of wood on the island include:

- Firewood

- Chipped or pelletized wood for larger-scale wood boilers – large, efficient, wood-burning furnaces, public and private.

- Timbers for timber-framing on the island – maybe even as kits.

- Oak skidders for lobster traps.

For export to the mainland:

- High-end products such as sculptures and decorative bowls and implements, made from wood would be possible to export to the mainland

Forestry could also produce jobs from the planned management of woodlands. Few Chebeague residents know how to manage a forest, and there is little labor on the island to do the management or cutting. On Cliff and Long, after the Patriot's Day storm, the people who cleaned up the downed trees came from the mainland. A walk through the woods on Chebeague suggests that there is a lot of waste of wood resources and missed opportunities for income generation and energy production on the island.

Issues

Land in State Tree Growth: A number of Chebeague residents do have land in the State's Tree Growth Program which could be an encouragement for commercial forestry but does not work that way now. The program allows land-owners to pay property tax on forest land at its value for timber harvesting rather than its value for development. The program requires that all enrolled parcels be 10 acres or larger and requires owners to have a management and harvest plan prepared by a registered forester for their land. It must be reregistered every ten years. The purpose is to produce a continuous harvest of trees. There is no minimum income requirement for this forestry as there is for the State's agricultural land protection program, but the owner is supposed to cut a certain number of cords of wood, as defined in the harvesting plan.

As a way of preserving open space or of creating income, this program, as it works on Chebeague now is weak. No areas are really harvested according to the required Tree Growth Plans. In part this is because monitoring of the plans is a local responsibility and has never been done. But more important, it is difficult for land owners to do the harvesting and to get the wood off the island.

In addition, owners can always take their land out of the program, after the payment of a penalty. Because of this, the program is often criticized as simply a way for landowners to save money on their taxes while they wait for a profitable development opportunity to materialize. This may well be true for some owners, but perhaps not for others who may simply want to keep their land undeveloped. In either case, they do not have to actively manage or harvest their forest.

Organization: A major problem with encouraging forestry on Great Chebeague is one of organization. With forest land divided into many small parcels, held by hundreds of people on and off the island, it is very difficult to “manage” the forest for production. It would be necessary to work together proactively to manage forest resources all over the island. No single land owner or individual has enough land, control or capital to make forestry work. Organizing a steady supply of wood for whatever use, would be difficult.

Harvesting: Timber harvesting is hard on the land and can result in severe erosion. The people who do it must be knowledgeable and monitored to insure that fairly complex Best Management Practices are used. In the Shoreland Zone, which comprises 18 percent of the land on Great Chebeague, harvesting of trees is especially severely limited in order to reduce runoff and erosion by protecting the vegetative cover of the land. Conserving the natural beauty of the forest is also a purpose of the law. Logging is very highly regulated and cutting and trimming of trees for other purposes is strictly regulated even if, as some coastal bluffs erode, falling trees can increase the erosion.

Investments: Depending how wood was used, it could also be useful to have a registered, fully operational sawmill on Chebeague. At the moment the Zoning Ordinance allows only temporary sawmills. There is one existing fixed sawmill and one small mobile one on the island now. There is also a need for special equipment that would make selective cutting more efficient. If dimensional lumber were to be produced, it might also be necessary to have a kiln for drying it.

Another option would be to have a mill that produced wood pellets.

A substantial income from forestry would be required to make this equipment economic, and given the sizes of forest holdings, no single person would make such an investment. However, possibly a town-supported, cooperatively owned sawmill might have a chance of working.

Forest as a Fire Hazard

Since 1985 there have been seven forest fires on Chebeague, burning a total of 2.8 acres. They were caused by burning debris, by children, and by an out of control campfire. Blown-down trees, particularly since the Patriot’s Day storm in 2007, are common, and there is public discussion of the danger of forest fire. On the other side, the state forester said that because of

the island's damp marine climate, the danger of fire is not as great as has sometimes been feared because dead trees are broken down fairly quickly by lichens and mosses.

Thea Youngs' 2008 analysis of the danger of wildfire on Great Chebeague, described more in the chapter on Public Facilities, found an average risk at the low end of the "high" rating, where the ratings ranged from low to very high. Some of the rating depended on how difficult it would be to fight fires on the island, and the rest depended on the nature of the vegetation and the construction of the houses.

Agriculture, Forestry and the Vacation Economy

Beside the presence of Casco Bay, the woods and fields and the still-rural character of Chebeague today are some of the most attractive aspects of the island as a tourist destination. Farming would not be incompatible with tourism and could be stimulated by the increased demand for local food in the summer. Forestry on a non-industrial scale is probably also compatible with tourism. In both cases long-time summer people, like year-round residents would have to get used to having more open fields; fields that are used for crops or animals and not just cut in the fall to keep them from growing up in trees.

An important issue here is to identify what land is most valuable for different uses. What land is economically valuable for farming or forestry; what needs to be protected as critical natural resources, and what land is primarily valuable as "scenery". This seems particularly to apply to forest, but can apply to open land as well. At one level the ordinary second-growth woods hide many of the houses that have been built over the past 30 years. At another level, particular undeveloped areas are special to many people: The walk through the dark conifer forest on Deer Point accentuates the emergence onto the bare rocks and pounding surf at the end of the path. The long view to the water across the Higgins field changes with the seasons. The ranks of tall trees along Roy Hill Road, that then give way to a long view down the hill and out over the water to Little Mark Island, are a constant pleasure winter and summer. Parker's Woods, and the dark forest leading down to the open marsh at Springettes sometimes have an almost spooky feeling of mystery.

Summary of Chebeague's Economic Strengths and Weaknesses

Location: Chebeague is isolated by having no bridge or car ferry connection to the mainland. This is an advantage for maintaining the island's traditional life-style, and particularly for tourists and retirees. It is a disadvantage because of the cumbersomeness and higher cost of transporting goods to and from the island, as well as commuters to the mainland and people who provide services to the island. It is also isolated from modern communication technologies.

It has the advantage of being located in the State's largest metropolitan area, with a commute to the mainland that is short for an unconnected island.

Scale: The island population is very small in the winter and, though five times larger in the summer, is still relatively small for supporting a wide range of enterprises. This also means that in many areas there is little competition because the population is not large enough to support more than one business. However, this small size is a benefit in maintaining the strong sense of community which is a drawing point for residents.

Seasonality: A major issue about work on Chebeague is that much of it is seasonal, with far more jobs available in the summer and fall than in the winter. The population swells with summer visitors, the lobstering season is in full swing and so is the construction season. Some businesses, like lobstercatchers, visitor accommodations and food and gift shops make most of their income during the summer. The small amount of farming on the island is also concentrated in the summer. This seasonal pattern is not a problem as long as families make enough in the summer to last through the winter, but many summer jobs are not high-paying, and income from lobstering is subject to fluctuations.

Ownership and control: Most of the enterprises on the island are owned by island people either through self-employment, stock ownership (CTC), cooperative ownership (Dropping Springs LLC) or as local non-profits. The one exception is the Inn.

Raw materials and resources: Chebeague is well situated to continue to use its marine resources. The population of lobsters seems to be healthy, but demand and price can fluctuate widely. In general, wild fishing is probably really in decline but fish farming might not be. On land it has the advantages of good land for farms and forestry, and a great deal of natural beauty. Land and wood may be old-fashioned, but they still exist. Natural beauty and rural character draw both summer people and year-round residents. Fishing, farming and tourism can easily be complementary.

Conclusion

If Chebeague has an image of new young families coming out here to live **and work** on the island, they have to have jobs on the island. Possible growth areas might include traditional occupations in fishing, farming and forestry and construction. Less traditional sectors that might grow given population trends and developing technologies are: telecommuting, low impact day-tourism, services for retirees and the elderly.

Alternatively or in addition, members of some working families might live on the island and work on the mainland. Commuting to jobs on the mainland brings money into Chebeague's economy and does not seem to deter people from participating fully in the community. Jobs in the Portland North communities, many of which would be year-round, would be fairly easily accessible to commuters from Chebeague.

2.c. THE COST OF LIVING: HOUSING, ENERGY AND TRANSPORTATION

Living year-round on an unconnected island appeals to some people and not to others. Being able to get in a car and go anywhere you want – to the supermarket, to a restaurant and a movie, to the hardware store to get two screws for your current project -- at nearly any time of the day is essential to some people, but not to others. Even so, this does not mean that people who choose to live on Chebeague don't care about the complications of living on the island. When the financial cost of living on the island is also higher than living on the mainland, even someone who loves island life may have second thoughts. And for someone thinking of moving to Chebeague, the two taken together may seem daunting.

Chebeague also faces a mis-match between the incomes of some of its year-round residents and the costs of living on the island. The two major issues here are the cost of housing, including the cost of energy, and the cost of transportation to the mainland. In the case of housing, the problem is not very different from that faced by many communities on the mainland. But on the mainland families with lower incomes can search for lower cost housing by looking further out in the metropolitan area, and can choose housing units other than single-family houses that have to be bought. These choices are not available to people with modest incomes who want or need to live on Chebeague.

The cost of transportation is another matter. Chebeague is quite unusual in having a private ferry service that has to cover a substantial part of its costs through fares and paid parking on the mainland. For a Chebeague resident, a trip to the mainland is obviously more complicated than getting into the car outside your house and driving to wherever you want to go any time you want. Taken together, the cost of the transportation and the cumbersome nature of the trip, make island life less attractive than the mainland, unless there is a strong incentive to live on Chebeague.

These cost of living issues were raised by year-round residents in a 2005 Housing Study. One of the questions asked whether any of the problems on a list of 16 issues were so serious that it would make living on the island difficult. Residents who responded, cited property taxes and heating and utility costs as their highest cost concerns (51 and 33 percent, respectively) while the cost of the ferry and parking was the third highest concern (23 percent). In addition, 15 percent of respondents mentioned the current cost of their mortgage, while 10 percent cited the problem of having to own cars on both the island and the mainland. Lack of suitable housing on the island ranked 9th and the cost of rent ranked 12th, mentioned by 7.5 percent of people.

None of these problems were cited by more than half the survey respondents, suggesting that people generally manage to live with them. But reducing these cost of living problems may be possible.

In fact the new Town administration and Town Meeting have stabilized tax rates. At some point the Town will need to have a comprehensive revaluation of property, but because the housing bubble burst in 2008, housing values may not be rising as much as they did in the 1990s and 2000s. These two factors may be reducing some of the problem of the high cost of property

valuations. In any case, if valuations do increase, the Town administration can keep taxes constant by decreasing the tax rate.

Even so, though the new Town has kept tax rates from rising very much, taxes can still be a problem for homeowners with low incomes, many of whom are elderly. Probably the most effective way to reduce living costs for this group would be to expand the State property tax refund by adding a local contribution.

But the costs of housing, energy and transportation remain issues. They place Chebeague, even with its natural beauty, supportive community and high quality of life, at a disadvantage compared to the mainland as a place to live.

Goals and Recommendations

The Goal is: REDUCED COST OF LIVING ON GREAT CHEBEAGUE TO MAKE ISLAND LIFE MORE COMPETITIVE WITH THE MAINLAND.

Housing

Recommendation: Chebeaguers should create 3 to 4 year-round, affordable housing units over the next ten years.

Recommendation: Revise the Zoning and Subdivision Ordinances of the Town to make them more suitable for providing affordable housing on Great Chebeague.

Recommendation: In this revision make sure that a range of opportunities are available in the zoning to allow the use of various forms of housing such as accessory apartments and manufactured housing.

Recommendation: Explore the feasibility of renovating existing houses, either available on the open market or in foreclosure, for year-round, moderately priced use.

Recommendation: Take advantage of all possibilities to reduce the cost of building new housing such as donated land from the Town or from private donors, public grants and low interest loans, while providing attractive and good quality, energy efficient housing.

Recommendation: Encourage the availability of low cost lots for income eligible islanders to build their own houses. Use covenants or other mechanisms to keep these lots and houses in a reasonable price range when they are later sold.

Recommendation: Explore ways to create more year-round rental units.

Recommendation: Over time as moderately priced, year-round housing is created, provide a mix of ownership and rental housing.

Recommendation: Over time as moderately priced, year-round housing is created, provide a mix of lots for people to build on, single-family houses, smaller, apartment-type units and assisted living units of various levels.

Recommendation: Provide assistance such as financial, technical or legal help, to eligible residents who are trying to buy houses on the island.

The Goal is: GOOD HOUSING MAINTENANCE AND WEATHERIZATION

Recommendation: Encourage programs for eligible home-owners, especially the elderly, to get help in the maintenance or renovation of their houses.

Recommendation: Promote public programs that provide grants or loans to allow residents to make their houses more energy efficient.

The Goal is: PROPERTY TAX RELIEF FOR THOSE IN FINANCIAL NEED

Recommendation: Explore the development of a local circuit breaker program, subsidized by local tax revenues.

The Goal is: REDUCED COST OF LIVING ON GREAT CHEBEAGUE TO MAKE ISLAND LIFE MORE COMPETITIVE WITH THE MAINLAND.

Transportation

Recommendation: The Town and CTC should engage in a discussion about ways to reduce the cost of transportation to the mainland by increasing revenues, lowering costs and/or having a Town subsidy.

Discussion

Housing

Both the nature and the cost of the housing on Chebeague are deterrents to encouraging young people to remain or come to live on the island. There is very little rental housing and house prices are high. The recommendation priorities shown in Chapter III indicate strong support on the Planning Committee for providing more moderately priced year-round housing. While there are many questions from residents about the present efforts to do this, they have so far accepted them.

The State's goal for providing moderately priced housing is to have 10 percent of all new, year-round housing be in this price range. For Chebeague this would mean that over the next ten years only 2 to 3 year-round rentals or houses selling for less than \$200,000 need to be provided. But to house a new generation of Chebeague workers, more units than this will be needed.

Young individuals and families are not the only residents who have housing problems on Chebeague. The elderly do as well. Some are related to income, but some are simply a function

of aging. Though these issues are somewhat tangential to the rest of this chapter, they will be dealt with briefly in the text and recommendations.

Current Housing on Chebeague

In 2008 Chebeague Island had an estimated 468 dwelling units.¹⁰ Of these, 170 or somewhat over a third (36 percent) are occupied year-round. There are a few year-round rental houses, but probably well over 90 percent of these year-round homes are owned by their occupants. The other 298 houses on the island are summer houses meaning that they are occupied between one month and 6 months of year. The percent of the housing stock that is made up of houses owned by non-year-round residents has been fairly stable at about 63 percent since 1988. Seven of these summer houses are rented out in the winter to people living on the island in the winter, but these renters have to find other accommodations in the summer when the owners come to use the houses.

The outer islands have at least six houses. Those on Bates, Ministerial and Stave are summer houses, while Hope Island has several year-round residences.

In the past, the market for year-round housing was largely independent of the summer-house market. Summer houses were just that – basically unfinished inside and uninhabitable in the winter. Year-round houses were more substantial, could be heated, and had adequate water and sanitary facilities to be occupied year-round. Each served a different group. There was land for both and the prices of both were moderate. This situation lasted through a long period between about 1930 and 1980 when Chebeague saw very little construction of new houses.

In the 1970s, however, the rate of construction of both year-round and summer houses began to increase. That decade it rose to about two houses a year, and then to three per year in the 1980s. As Table 1 shows, between 1988 and 1998, 43 houses were built. So far in the first decade of the 21st century the rate has again increased to 5.5 houses per year. Some of this growth also results from the number of summer people, and others, who are deciding to retire year-round to Chebeague.¹¹ Thirty nine were summer houses¹². These recently constructed summer houses are more likely to be fully winterized but “cottages” continue to be built. Of the 16 year-round houses, 7 were built by year-round, working age residents. An additional 8 were built by people retiring to the island after working careers elsewhere.

¹⁰ Counting houses in a small place produces more uncertainty than counting in a large one where missing data makes relatively little difference. The 2000 census reported Chebeague Island as having 499 housing units, and a count that same year based on the Town of Cumberland assessment records found 400 housing units. The estimated number of units given in Table 1 for 1988 and 1998 used the 2008 CPC total of 468 dwelling units and then subtracted the number of new units that were added to the tax rolls in each ten-year period.

¹¹ In addition, the increase can be explained in part by the 12 houses granted building permits in the single year of 2001. This was the result of an effort by the Town of Cumberland to adopt a growth cap for the island based on its historic rate of 3 houses per year. Faced with a yearly cap that might slow down their plans, summer and year-round residents alike who had been thinking of building, rushed to get on a waiting list to build 23 houses. In the end the Cumberland Town Council let all applicants who were ready to proceed have building permits. Twelve of the 23 applicants were ready.

¹² Whether a house is characterized as “summer” or “year-round” here is not based on its construction and whether it is habitable in the winter. Instead it is based on whether the *Chebeague Directory* shows only a Chebeague address or also shows another address in some other part of the country.

This means that at least since the 1990s, the strong demand for summer houses has driven the market for year-round houses as well. These houses are part of an up-scale national market for scenic waterfront houses and house sites. Like other unconnected islands from Martha's Vineyard to Penobscot Bay, Chebeague has become a desirable place to live, not only for people with long-term connections to the community, but also for people from all over the country who like the idea of living on a Maine island, whether in the summer or year round in retirement.

Table 1: Projection of Number of Housing Units on Chebeague Island

Type Unit	1957	1988	1998	2008	20 year average	2018
Year Rd Houses	96	133	148	64	1.55/yr	181-190
Other Yr rd	?	4	6	6	.10/yr	10
Summer Houses	224	233	259	298	3.25/yr	330
Percent Summer	70%	63%	63%	64%		
Totals	320	370	413	468	4.9/yr	521-530

As a result of this growing housing boom, over the past 20 years Chebeague's property and housing values have risen substantially. The increase in assessed values on Chebeague between 1998 and 2003 was 67.7 percent. This followed an even larger increase between 1990 and 1998. The average increase for the entire Town of Cumberland was 67.8 percent, and Chebeague's increase was proportionately more than the increase on the mainland.

In the past the conversion of year-round to summer houses and vice versa had been fairly common, and had not been a significant issue. Now, however, modest year-round houses that might have been affordable are being sold to summer people, particularly if they have a water view.

This rise, of course, has created wealth, as land and housing values have increased. But for a middle income fisherman or teacher, the cost of housing over the past 20 to 25 years has probably increased faster than incomes. A careful comparison of the cost of building the same house by a person with the same job as an SAD 51 teacher in 1976 and 2010 indicates that while the teacher's salary has increased 372 percent, the cost of building the house has increased 750 percent. This means that a 30 year mortgage on this house today, even at a lower interest rate than in 1976, would consume 39 percent of the teacher's income compared to 27 percent in 1976.

Not surprisingly, the 2000 Chebeague Long-Range Plan identified the price of land and houses as a problem that was discouraging new, young and working people from coming to live year-round on the island. Today the problem is even greater. Inheritance of land and houses has helped some existing year-round and summer families stay on the island by making their housing affordable, but family land is also increasingly limited.

Year-Round Incomes and Housing Prices

Chebeague's year-round population has relatively low incomes. If most residents didn't already own their own homes, often with no mortgage, they would not be able to buy into the present housing market. This is exactly the issue faced by young people wanting to establish themselves on the island. In addition, most of the housing available is owner-occupied single-family houses, and the rental houses that are available cost more than some residents can afford.

The 2000 Census found that Chebeague's year-round median household income was \$32,188. Married couples did the best, at \$51,172. Female headed households had \$41,719, while non-family households had a median income of only \$21,250. In the 2005 housing survey the median non-elderly household income was \$52,500 for a family of 3. The median for people over 65, however, was only \$26,250. Putting the two groups together gives an overall median income of \$42,500.

No "typical" household on Chebeague could afford to buy a house on the Island. In 2005 the median price for a non-waterfront house was \$279,000, higher than the price in Cumberland County as a whole, while median income, at \$32,188, was considerably lower than the County median. On Chebeague, to have a reasonable cost (one third of a family's income spent on housing) a house could not sell for more than \$123,000 to \$211,000 depending on family size.

In addition to the basic cost of buying a house, energy costs are also an issue for people of modest incomes. Rates for electricity are the same as those on the mainland, so the case for producing local energy with wind turbines or biomass is not strong unless other island goals are also met. Heating oil, kerosene and gasoline which have to be brought out, cost more. The Island Council has a program for helping residents with their heating costs. But the basic problem is that most of Chebeague's houses are old and draughty. Programs like PACE that provide loans for home weatherization and pay for themselves in energy savings, are needed on Chebeague.

Rentals

Younger people are more likely to rent housing. While Great Chebeague has a substantial supply of fairly expensive summer rental properties, it has very little rental housing for people who want to live year-round on the island. Instead, some year-round residents rent winterized summer houses in the winter and then move in with relatives or friends, or live in tents in the woods during the summer. But this moving to and fro is disruptive, especially to a young lobsterman whose busy season is in the summer or someone who works for a business that primarily serves summer people.

A monthly rental at 50 to 60 percent of the median family income would be between \$375 and \$450 including utilities. This is lower than the \$650-\$800 per month rent that the winter rentals of summer houses go for, though some smaller or substandard houses and apartments may have rents this low. In any case, finding this housing is not easy. It requires local knowledge and often a willingness to move in the summer, all of which may deter young people from trying island life.

Since Chebeague needs to attract young people, couples and families to keep its year-round economy going and to maintain its elementary school, the lack of inexpensive, year-round

“starter” apartments and rental houses is a significant problem. The additional number of these units need not be large. The Chebeague Housing Study found that four respondents indicated an interest in year-round rental housing over the next five years (in 2005) and an additional seven indicated an interest in the somewhat longer term.

The Elderly

The median income for Chebeague is \$32,188 in large part because the incomes of many of its elderly residents are low. In the 2005 Housing Study the median income elderly respondents was \$26,250. However, most older people own their own houses, and in 2000 73 percent had no mortgage. In this regard their housing is much more secure than that of young people.

But some of Chebeague’s elders have more house than their incomes can support. Chebeague’s year-round housing stock was largely built for families with children (and in some cases, families with summer boarders). Now almost 80 percent of year-round households have no children. Generally the condition of year-round housing on Great Chebeague is good. However, home maintenance is an issue for low income elderly. Even among residents who own their houses free and clear, 40 percent still pay more than 30 percent of their income for housing. This means that at least some owners, probably many of them elderly, do not have sufficient funds to maintain their houses.

The Island Commons has explored somewhat whether it would be possible to work with PROP to have a low interest loan and grant home repair program on Chebeague. However, the initial response was not encouraging since elders in such a small community also do not want to be identified as needing financial assistance.

Weatherization would also produce savings in the cost of housing, though low income elders may be reluctant to take advantage of loan programs, even if energy savings are equal to the cost of the loan.

Finally, if given a choice between staying in their familiar family house and moving to a smaller housing unit, most elderly people would choose to stay where they are. But as older people become frail, they need increasing help to remain at home. Some can be helped by family members who live on the island. But otherwise it is difficult to get home-care providers to come regularly to the island.

Chebeague does have a 7 person assisted living facility, the Island Commons, and when older people, whatever their incomes, reach the point where they cannot live in independently any more, they can often stay on the island by going to the Commons, which has established a reputation as a comfortable and caring place. When Chebeaguers need more care than can be provided by assisted living, they must go to a nursing home on the mainland.

With the baby boom beginning to retire, and the likelihood that additional summer people will retire to the island year-round, the need for additional assisted living care seems certain. The 48 year round residents who were ages 65 to 74 in 2000, when the Island Commons was built, are already ages 73 to 82, while the 33 who were 75 to 84 are already 83 to 92. The two largest

single age groups in the Chebeague population in 2000, with 30 people in each, will be in their 70s by 2018.

Meeting Chebeague's Housing Needs

Work on meeting the unmet housing needs of Chebeaguers has been done by two island non-profits. Even though Chebeague is now an independent town, the Town government is small, has many tasks to undertake, and has chosen not to undertake the job of working on inexpensive, year-round housing.

The Island Commons not only provides assisted living itself, but the Island Commons Resource Center works to provide a broader range services to older people on the island. The Commons explored PROP housing maintenance program and has been discussing other ways of meeting the housing needs of older residents.

The Chebeague Island Community Association (CICA) Housing Committee has been working since 2006 to meet the housing needs of younger individuals, couples and families, assuming the work done since 2002 by the Cumberland Islands Committee. In 2004 the CIC applied to the CDBG Program for a planning grant to study the demand for such housing in more detail. This study, Mayberry and Hemminger, *Chebeague Housing Study: Final Report*, was completed in December 2005, and laid out a five-year strategy for providing 12 moderately priced housing units for rent and sale. This goal has not been met.

CICA's initial "pilot" project in 2007 was to purchase a three-bedroom house with assistance from the Genesis Fund, the Island Institute and donors on Chebeague. Renting this as a modest, year-round house has worked well, but the group has learned that the number of people on the island needing such housing at any given time is small and that a variety of kinds of housing options such as small rental units, or lots available for people to build their own houses, are needed in addition to rental houses.

In the fall of 2009 CICA began to explore building year-round rental housing on property owned by the Town. In early 2010 the Maine State Housing Authority announced a \$2 million grant program to provide assistance to multi-family rental housing on unconnected islands. The June 2010 Town Meeting voted in favor of developing a proposal to build a rental duplex on a Town-owned site near the School and the Rec Center.

Possible Housing Futures

Fully 21 percent of all the houses on Great Chebeague and Hope Islands have been built in the 20 years between 1988 and 2008. Will construction of houses continue at this pace? A slow economy has certainly reduced the recent rate of construction. On the other hand, the impending retirement of the baby-boom generation may counter this somewhat, as some long-time summer residents may have been preparing for some time to retire year-round to Chebeague.

The increase of anywhere between a low of 35 houses or highs between 53 and 62 houses over the next ten years, shown in Table 1, is what market demand might produce if the economy bounces back. This would accommodate projected year-round and summer population growth, assuming that the composition of the population remains as it is. If the construction patterns also

remain the same as they have been, then the new houses would probably be like those built in recent years – all owner-occupied, large summer houses, houses for retirees “from away”, fairly large speculative houses not on the shore, and a few modest houses for year-round working families. Apartments, duplexes and year-round rental units are not very likely. But the Commons, the year-round rental house and the proposed rental duplex are a small start toward a more diverse and reasonably priced housing market.

Transportation

Getting to and from the mainland is one of those aspects of life on Chebeague that is both complicated and expensive, and, as a result, can be a deterrent to having families stay on or move to the island. Of course the cost and multi-modal nature of the trip is also one of the things that residents count on to reduce development pressure on the island. But for people with modest incomes the cost can be a substantial burden.

This discussion focuses entirely on CTC because it has the shorter trip and is the major source of transportation to the mainland. It is also locally owned, so the possibility of affecting its operations is somewhat more likely.

The transportation is costly for island residents. Because the CTC ferry is passenger-only and there is no public transit at the mainland end, individuals and families must have at least two cars, one on each side of the water. Many have considerably more – a truck and a car on the island, and cars for several family members on the mainland, for example. Even if the island cars are old, as many are, the cost of registering, maintaining and running cars on both sides of the water is obviously greater than it would be on the mainland. In addition, parking for one car for a year in one of the CTC lots costs \$600 or \$675 per year.

A year-round working family – two adults, one commuting to the mainland, two cars, two pre-school children -- probably spends a minimum of \$3200 a year on parking and tickets, and \$4,000 would not be surprising. But the direct cost to a family is not the only one. If they want to invite their mainland friends or relatives with two kids for a visit, they are either asking them to pay or paying for them \$47 per day (\$62 for two days). And, of course this cost applies to any visitors to the island. One of the survey respondents said s/he now doesn't invite people out to the island but only goes to the mainland to visit them.

CTC already has four different rates for adults and three for children, not counting the contract with the School District which provides for school transportation. Commuters and year-round residents have the lowest fares. And the problem of reducing the cost of transportation further is a difficult one because the revenues from the transportation system are not making anyone rich. CTC is formally a “for profit” company, but it must pay for the services it provides out of the revenues it takes in, and it is lucky to break even several years in a row. It is always searching for the balance between providing satisfactory service and keeping its costs down. It already subsidizes the fares with revenue from its parking and barging operations. It is provided with boat mooring and automobile parking at the Stone Wharf, but as a for-profit company, does not qualify for any state or federal subsidies.

At this point CTC and the Town are two entirely independent organizations. There is a more detailed discussion of CTC and of the Casco Bay Lines, as well, in the chapter on Ferries. CTC is a for-profit company but it is moving toward restructuring itself to become a non-profit. This would allow it to apply for State and Federal funds to support its operations. It could, of course, go further and become a local transit district or a department of the Town, and the Town could even subsidize its operation. If the cost of transportation is an issue the Town decides to take on, discussions with CTC about these possibilities will obviously be necessary.

However, CTC would bring to this discussion a certain amount of negative public opinion, some dating back to its early years of operation. Neutralizing this baggage, perhaps by the involvement of a neutral third party, might be possible in order to get fair and rational discussion of the costs and benefits of the options under discussion. Whatever options might be considered in the future, the cost of running the transportation system will not somehow magically disappear.

Conclusions

The costs of housing, including energy and taxes, and of transportation are not the only higher costs that Chebeague residents live with. Anything that is brought out to the island to be sold is likely to be more expensive simply because of the transportation. Things bought on the mainland and delivered on the island have the same added cost. Having service-people come out to fix an appliance, tune a piano or do any other kind of work has to take into account the extra charges for the ferry fare and the time taken by the call.

Residents can minimize these costs by carrying their own groceries out from the mainland, or by buying goods produced on the island, producing their own or hiring island workers to provide services. But housing, energy and transportation are the big-ticket items that may make the difference between being able to live on the island or not. They may also be issues that the Town and its non-profits can do something about.

2.d. EDUCATION

Comprehensive Plans do not usually deal with education, aside from assessing the adequacy of school facilities. In the Town of Chebeague Island, however, the Chebeague Elementary School is one of the cornerstones of the community. It is both an indicator of the health of the year-round working community and a potential or actual attraction for young families to live on the island. The combination of elementary education in a small personalized educational environment close to home, and the education offered by fairly easily accessible high-quality suburban middle and high schools on the mainland is highly unusual. Through their education, Chebeague students can prepare themselves for life as a fisher on Chebeague, or for a wide range of careers on the mainland.

The centrality of the school to the community was illustrated in 2005. The impetus for Chebeague's secession from the Town of Cumberland and SAD 51 was a proposal by SAD 51 to move the third to fifth grade classes of the Chebeague Elementary School to the mainland. While this proposal was later withdrawn, the School Board would give Chebeague no assurance that its school would remain open. Indeed, as a small, high-cost school, it seemed likely to be closed at some point in the future.

When unconnected islands lose their elementary schools, they can no longer survive as "real" year-round communities. The Chebeague School was one of only 14 remaining island schools in Maine. This argument convinced the Legislature that Chebeague had a legitimate reason for secession, and at the first Town of Chebeague Island Town Meeting in July 2007, the voters elected its first five-person School Committee.

During the secession and transition processes a great deal of work was done on the island to develop plans for the new town's school system. They had the help of an educational consultant and information from other, similar school districts. This Chapter is based substantially on this work. The School Committee has continued this work. It is not the role of the Comprehensive Planning Committee to make recommendations to the School Committee except to emphasize the important role of the island school in maintaining the year-round, working community.

Goals and Recommendations

Goal: A THRIVING ISLAND SCHOOL

Recommendation: Encourage and attract families to Chebeague that include school age children.

Discussion

The Town of Chebeague Island School Committee and Superintendent run the Chebeague Island School. The School has three classrooms: PreK, K-2 and 3-5. The Pre-K program was added when the School District became independent. The staff consists of the same two full-time teachers who taught in the school before secession, two ed techs, a cook/custodian and a bus driver. Subjects such as art, physical education and music are provided by visiting staff. The administrative staff is a part-time Superintendent/Principal and a part-time secretary.

The school building was built in 1953. It has had only minor renovations since that time, but over the years has been well maintained. It has capacity for 60 students. It has 4 classrooms, two small spaces for working individually with students, a very small office, a kitchen, bathrooms, a boiler room and a storage closet. The Town owns a school bus that picks up children all over the island before school and takes them home afterward. It is also used for many field trips on the island. The School Committee has a Facilities Plan.

There is a playground behind the school. The School also has a vegetable garden tended by the children and several adult volunteers. It provides food for the school lunches. The school leases the Chebeague Recreation Center and its pool, built next to the school in 1997, for physical education and after school activities. It also uses Volunteer Field on the other side of the school building. Its school library is the Chebeague Island Library.

The school has had a long history of support by members of the community. There are regular volunteers helping out in the classroom, assisting with projects and providing logistical support to the school staff.

When students reach sixth grade, they begin to go to school on the mainland. As a part of the Town of Cumberland, they went to SAD 51's Greely Middle and High schools. The secession agreement provided that Chebeague children would continue to attend SAD 51 schools for 7 years. At independence, the Town of Chebeague Island made a lump-sum payment to pay for this education.

Having children in school on the mainland makes daily life more complex for families. In the 2005 Housing Study's question about factors that create serious problems for living on the island, the fourth most pressing problem, cited by 28 percent of respondents, was the distance to schools for after-school activities, while 13 percent considered the more general fact of having middle and high school kids attending school on the mainland to be a problem for living on the island. There has been an effort with SAD 51 to arrange additional transportation so that children can participate in sports and other extracurricular activities, but even with this, parents must often make extra trips to the mainland. For some families, the extra effort and cost that this requires has led to the decision to leave the island.

In 2010, after considerable research into various mainland school districts, the School Committee decided to contract with Yarmouth School District. The middle and high schools are excellent academically. The decision is also expected to reduce the hassles for parents of having children involved in extracurricular activities and sports, since Yarmouth already provides transportation to Cousins Island which is part of the Town. In addition the Yarmouth school officials appear to be welcoming, and interested in integrating the Chebeague students into their schools.

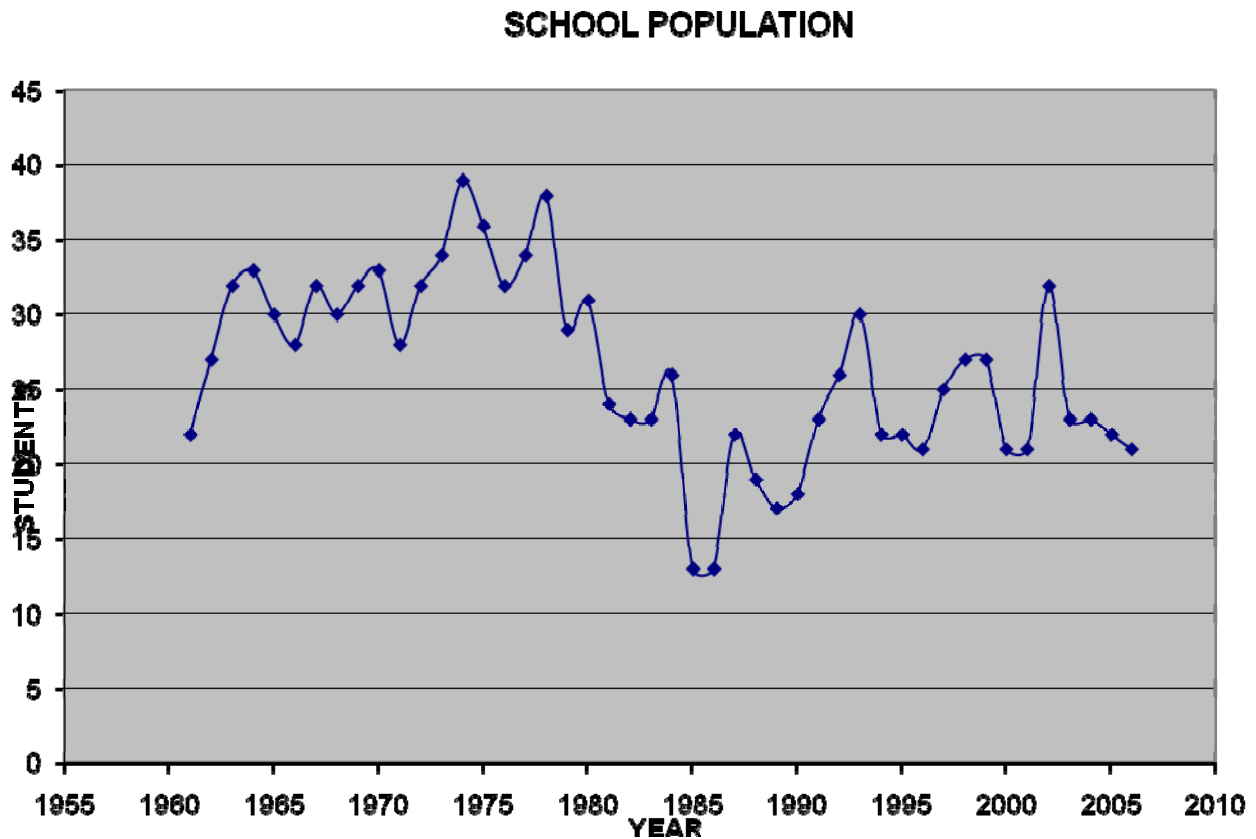
The School Committee and the community are now involved in a discussion about whether the transition to the Yarmouth schools will begin in 2014 when the agreement with SAD 51 ends, or will begin in 2011 with the 6th grade. This decision will ultimately be made by Town Meeting.

The transition from a small elementary school on the island to a fairly large middle school on the mainland has been a major change for the Chebeague students since the Chebeague High School

was closed in 1956. The School Committee has worked on a program to improve the transition to SAD 51. Such a program with the Yarmouth schools may do more to introduce the Chebeague students and the mainland class they will join to each other and their communities. But the social part of the transition is only one element. It is essential that children finishing the Chebeague Island School be well prepared academically for the classes they will enter on the mainland.

The program of the Chebeague School has not changed dramatically since secession. The curriculum of the Chebeague school had already been coordinated with that of SAD 51 on the mainland, and the school staff have worked to meet the requirements of Maine Learning Results. As the children switch to the Yarmouth schools, the curriculum will be revised to provide a smooth transition from Chebeague to Yarmouth's middle school.

Graph 1



School Enrollment

Overall, the proportion of the population on Chebeague that is at or younger than school age has remained about the same at 19 to 20 percent in ten-year population counts. But this masks considerable volatility in the number of children in the Island School. The whole island school system has fewer than 50 students for PreK through high school, and fewer than 25 in the elementary school. This means that small changes from year to year in the number of families and their children can create considerable fluctuation in the school population. Overall, however, changes in the

Chebeague Elementary School population have mirrored demographic changes in the wider society.

Donna Damon developed a tabulation and graph of the Chebeague Elementary School population (K – 6) since 1960 based on school end-of-year photographs (Graph 1) The numbers of children are only comparable from year to year between 1964 and 2005. In 1964 the Junior High students (grades 7-8) were switched to the mainland, and in 2005 the 6th grade was also shifted to the mainland.

The U.S. baby-boom is considered to have begun in 1946 and ended in 1964. These baby boom children hit elementary school in 1952, with the last group entering in 1970. Chebeague's peak school population was 39 in 1974, in the middle of the last cohort of boomers.

Nationally and on Chebeague the birthrate declined in the latter half of the 1960s and the first half of the 1970s – the kids who reached school age between 1970 and 1982. The Chebeague School had its low point in enrollment at 13 students in 1985 and 1986.

Since then the baby boom “echo” raised the birthrate again, almost to the peak it had reached in 1964, with the high occurring about 1990. These children reached school age about 1996. On Chebeague the pattern since 1986 has been less clear, with many ups and downs. However the general pattern is similar, with the average number of students per year from 1987 to 1997 at just over 22 compared to 31 for 1960 to 1974, and the low of 13.

Nationally, virtually all the growth in the school-age population in the future is expected to be among immigrant families. In Maine, enrollment has gradually been declining for ten years. Maine's birthrate is predicted to decline, though southern coastal areas may be continue to have net in-migration and some increase in births. The current recession certainly makes these predictions less certain. The Maine Department of Education reports that enrollment has been declining slowly over the past ten years and this trend is expected to continue.

Superintendent Bump Hadley's projection into the future of the elementary school population, based on children currently living on the island, shows a slight decline. But it is always important to remember that with such small numbers of students, the addition or departure of one family with several children in the school can make a noticeable difference in enrollment.

For educational reasons it is useful for an elementary school to have a large enough enrollment to have at least one child in each grade so that each classroom has a group of children. If the number of children fell below the minimum required to sustain several grades, then the community could consider, as Islesboro has, recruiting some children from the mainland.

But more fundamentally, if enrollment were to fall to this level, the problem would be a more general one of sustaining the year-round working population. And from that point of view, having a small elementary school with very individualized teaching, linked to larger, academically challenging middle and high schools conveniently located on the mainland is probably a draw for young families.

The Comprehensive Planning Committee urges the School Committee to carry out the mission of the Chebeague Island School, and to work to make the experience of mainland schooling a positive one for both students and their families. Excellent schooling can be a powerful tool for maintaining Chebeague's year-round, working community.

2.e. COMMUNITY SERVICES PROVIDED BY ISLAND ORGANIZATIONS

A Community Rich in Voluntary Organizations

Chebeague is a small community that is always somewhat isolated and sometimes completely cut off from the mainland. So islanders are pretty self-sufficient. They also have a strong sense of community that values the independence of people but is very supportive when there is need. This has led to the creation of many social and service-providing organizations over the years (Table 1). Since WWII, and especially since the 1980s many of these organizations have been formally-created 501(c)3 non-profits.

Table 1: Chebeague Non-Profits and Private Clubs

Non-Profits:

The Island Commons
 Island Commons Resource Center
 The Chebeague Recreation Center
 Kids Place
 Sanford's Pond
 The Chebeague Parents Association
 The Chebeague Island Library
 The Chebeague Island Hall and
 Community Center
 The Chebeague United Methodist
 Church
 The Ladies Aid Society
 The Chebeague Historical Society
 The Museum of Chebeague History
 The Chebeague Island Council,

The Health Clinic
 Chedemption
 The Chebeague Island Community
 Association
 Year-Round Housing Committee
 The Stephen Ross Scholarship Fund
 The Chebeague and Cumberland Land
 Trust
 The Recompense Fund

Private Clubs providing recreational services

The Golf Club
 The Yacht Club
 The Sailing School
 The Tennis Club

This wide variety of community organizations, services and activities raise several issues. One is what services are available and what gaps in services may need to be filled. This, however, is primarily an issue for the various organizations themselves, though as the goal above indicates, the Town can be supportive and collaborative in filling gaps. (Appendix 1 lists the evaluation by each organization of its facilities.) The other issue that is discussed, but not fully resolved here, is what should the relationship between the Town and these non-profits be?

Goals and Recommendations

The Goal is: INCREASED ASSISTED LIVING OPPORTUNITIES FOR ELDERS

Recommendation: The Island Commons is encouraged to explore expansion of its assisted living facilities as increasing need dictates. This might include housing that is more independent than full assisted living but still provides some services.

Recommendation: Explore ways to make the provision of home care and other such services for the independent elderly more easily obtained on the island.

The Goal is: CONTINUED PROVISION OF SERVICES BY ISLAND NON-PROFITS AND CLUBS TO CONTINUE TO PROVIDE SERVICES PARTICULARLY FOR CHILDREN AND FAMILIES, AND THE ELDERLY

Recommendation: The Town (Selectmen and Town Meeting) should continue to consider proposals from non-profits, and perhaps even from clubs, for support in the form of land or financial support for facilities and services that are important for the survival of the year-round community.

The Goal is: COST EFFECTIVE OPERATIONS FOR NON-PROFIT FUNCTIONS.

Recommendation: The various non-profits are encouraged to explore ways to join forces with other non-profits and/or with the Town, to leverage results, and to operate more efficiently and effectively.

Discussion

Map 1 includes all the non-profits and clubs that have facilities. Some such as the Scholarship Fund and the Yacht Club have none. Those that do are located all over the island. The Hall, Health Clinic and Library are co-located in one building, and the School, Rec Center and Kids Place are grouped on adjoining lots.

All of these organizations involve many year-round and summer residents as board members, regular volunteers, participants in fund-raising events, simply as members and, of course as donors. Even in winter, weekday evenings on the island are filled with organizational meetings. The non-profits are social as well as service-providing organizations. Christmas parties, lectures, fairs and other social and fund-raising events are held throughout the year.

These organizations provide a number of services, such as recreation programs and library services, that in other communities are provided by the Town. Their non-profit status on Chebeague was partly a response to gaps in Town services on the island.

Because Chebeague is a boat and car trip away from services on the mainland, the facilities and services available on the island are particularly helpful in meeting the varied needs of residents, particularly for children, their families and the elderly, but, in fact, for everyone.

Services Available

Many island non-profits – the Church, the Library, the Recreation Center and the Health Clinic, the Hall -- serve all age groups and both year-round and summer people. But there are two groups, children and the elderly, that are the particular focus of some organizations because they are more in need of services and less able to get to the mainland. So the Commons provides

Map 1:



assisted living to the elderly and the Island Commons Resource Center provides information about services to the elderly. Kids Place provides day care for children.

Because the Town has been a summer vacation destination since the 19th century, and the population in the summer is about five times larger than in the winter, the island has also created and supported a wealth of recreational and cultural opportunities which are generally available to everyone. And, because the island is more isolated than most places, especially in the winter, islanders tend to rely on their own resources and services for physical recreation and intellectual stimulation.

Even so, it is still fairly easy for residents to take advantage of the many cultural and recreational opportunities available in the Portland metropolitan area as well. And middle and high school students are involved in things like plays and athletics at schools on the mainland.

Children

Children are a natural focus of any small community, and Chebeague is very family-oriented with more multi-generational families than many communities on the mainland. Children are also key to the survival of Chebeague's year-round working community. If families can't work and provide their children with a good life including education, recreation, health care, and social and family networks, they won't be willing to live on the island. Families with two working parents are much more the norm now than a generation ago, and keeping all these balls in the air is a significant challenge to island parents, especially once their children reach middle school and go to school on the mainland. In addition, though kids on Chebeague may be somewhat sheltered from some of the problems of modern life, they do exist on the island.

So island residents have responded with a wide variety of organized activities for children both young and older including:

- Kids Place provides day care from infants to older children after school. This fills what had previously been a gap in services for children on the island.
- Rec Center Teen Center provides a place for teens to gather (free) and organizes a variety of activities on the island and the mainland.
- The pool at the Rec has swimming lessons.
- Camp Chebeague has many different activities from soccer to crafts to Lobster Camp -- for year-round and summer children.
- The sailing school teaches kids beginning and more advanced sailing skills.
- Sanford's Pond, created by Sanford Doughty but now partly maintained by the Rec Center, provides skating in the winter (free including equipment).
- The Library welcomes all children and maintains a substantial collection of children's books and videos. In addition they have story hour, and in the summer activities ranging from magic shows to a Harry Potter sleepover in the Library (free). They are also the library for the school.
- The Golf and Tennis Clubs have lessons and clinics for children.
- The CPA, the Church and other organizations hold a variety of seasonal children's parties (free).
- In the summer the Rec Center produces children's theatre productions at the Hall.

Even given all of these services and activities, however, there are still some children who may be in need. Their parents have problems finding jobs, housing that they can afford, and a number of the organized activities for children outside of school cost money. Jobs may be the best help for these families, but the children still need day care and other activities.

These, of course, are organized activities. The year-round and summer children also have the whole island to explore and play in from the shore and the intertidal, to forests that crawl with salamanders and provide homes for deer and foxes. Here the island's isolation is a boon. The community watches its kids, drives carefully when they ride their bikes on the island roads. Fathers and grandfathers teach them to hunt. Mothers make up treasure hunts in the woods. Swimming, picnics, excursions in boats, sledding at the Durgin's Hill or on the golf-course seem to compete successfully with the internet.

The Elderly

The elderly make up a disproportionately large share of Great Chebeague's population. In 2000 a quarter of Chebeague's year-round population was over 65. Chebeague's median age in 2000 was also the highest of any of the unconnected islands, ten years higher than North Haven's.

Many of these older people have lived on the island all their lives. The rest usually have some long-time connection to the island – they grew up here or came in the summer – and have decided to live year-round on the island in retirement. It seems likely that both groups will grow in the immediate future, since the babyboom generation has begun to reach retirement age.

As residents age, they tend to develop a complex of problems that need attention. Some elderly are in poor health, but even those with few health problems are likely to need to be monitored for medications they take or for chronic but not health-threatening conditions. For most there comes a time when driving a car, particularly on the mainland, becomes problematic so getting care on the mainland becomes more difficult. Almost all older people prefer to go on living on their own in their own homes as they always have. This can often be done with support from family members or from home care services. But not all older residents have family on the island and getting home care providers to come out to Chebeague is difficult. Home maintenance and the cost of energy can also be difficult for elders to deal with.

The underlying problem for some of these people is income. The median household income on Chebeague in 2000 was \$32,188. However, non family households had a median income of only \$21,250. Of these 65 households, 33 (51 percent) had householders who were 65 years or older. Of these elderly households, many were people living alone.

As with children, Chebeaguers have developed a number of services that particularly help older residents including:

- The Health Clinic which provides blood testing and the services of a physician's assistant one morning a week.
- The Island Commons which provides assisted living care to 7 people as well as some day care. The Commons also organizes a monthly "Senior" luncheon which was so

- Heating assistance provided through the Island Council.

On the planning survey there was some interest in providing Town support to the Clinic so that it might have more hours or more staffing by a doctor or physician's assistant. Several of these people particularly mentioned the need among the elderly as a reason for the Town to be more involved. However, an effort to establish a Town Health Committee failed for lack of volunteers.

Cultural Activities and Resources

Great Chebeague not only has many physical activities for residents and visitors, it also provides a wide range of cultural and intellectual activities and events which center on the Library, the Hall, the Museum of Chebeague History and the Church.

The Library is open for at least some hours, six days a week. It has a good collection of popular books and videos, and materials for children, since it also serves as the school library in the winter. In 2008 it had 14,500 patrons and lent out 16,000 books and videos. Almost 4,000 used the public computers and many others use the Library's wireless internet connection. It can easily get books through inter-library loan. It sponsors a poetry group, a movie series and art exhibits by island artists.

The Chebeague Island Historical Society produces an extensive new exhibit on some aspect of Chebeague history almost every year at the Museum of Chebeague History. It also has monthly lectures, workshops, a newsletter and in 2009 revived the tradition of the summer House Tour, showing historic and new houses. The Historical Society has also sponsored a series of trips, organized by Suhail Bisharat, to Egypt, Jordan, Turkey and New York City exploring the history and arts of these countries.

Other cultural activities include:

Plays and musicals at the Hall

Lectures on ecological, artistic and travel topics

Music, both classical and popular, instrumental and vocal.

Art Exhibits at the Library, the Boat Yard's upstairs gallery and the art gallery at the Stone Wharf.

Some of these events are produced as fund-raisers for island non-profits. But many are simply the regular program activities of these organizations. Since the Hall, the Parish House and the Rec all have kitchen facilities, meetings are commonly accompanied by refreshments or even full-scale meals.

The Relationship between the Town and the Non-Profits

When Chebeague was part of Cumberland, the division between services provided by the Town and those provided by voluntary organizations was fairly clear-cut and stable. The Town provided public health and safety services (fire, police, rescue, solid waste disposal). The school district provided education. Non-profits provided anything else that residents wanted. In cases

where the Town provided some service on the mainland but not on the island, the Town would provide some support to a comparable non-profit, i.e. the Library and the Recreation Center.

Chebeague citizens' support of their non-profits and clubs is shown by their buildings and other facilities. The island has far more free-standing buildings for non-profits and clubs than it does for businesses. The Church, the Parish House and the Hall were the first generation in the 19th century. The Grange and the Doctor's House were the second, along with the Golf Course and Club. Buildings for the Library and Health Clinic, the Commons, the Recreation Center, the Historical Society and Kids Place have all been created since the 1980s. The only one that has ceased to exist is the Doctor's House which was sold when medical practice had changed so much that it became impossible to recruit a doctor to live in the house and to practice on the island. At that point the Town also ceased to provide money toward the doctor's salary. The money from the sale later helped to fund the present health clinic, and helps to pay for its operation.

Each organization has raised money from year-round and summer residents to create its building, and is responsible for maintaining and staffing it. Most depend heavily on volunteer staff, but many now have some year-round paid staff. The School District pays for services it uses at the Rec Center. The Town, which uses the Hall for many of its public meetings, has continued the practice begun by Cumberland of providing annual support to the Library for the maintenance of the Library/Clinic/Hall building and now also pays the Hall for its use for meetings. Otherwise the non-profits raise operating and capital money from community fund-raisers and annual appeals.

Donations, of course, are voluntary, whereas if the facilities were owned and the services were provided by the Town, they would be paid for through taxes. There are both advantages and disadvantages of having organizations largely run by volunteers. Some people think it would be easier and more efficient to fund services out of taxes (as well as state, federal and private grants), while others think that it is good for people to be able to support the services they want in particular. The need to keep all of these organizations operating does place a heavy burden on the people who are willing to volunteer, though for some organizations the burden is significantly shared by summer people. Despite the challenges, these organizations provide programs and services that help to sustain a diverse, year-round community

Now that the Town is independent, it would be possible to change the balance between public and voluntary services. The line is already getting more blurred. Non-profits make proposals for services or facilities that have to be approved by the Selectmen and/or Town Meeting. This plan for the Town recommends that when a non-profit undertakes a project that requires help from the Town in terms of resources such as money or land, that the project be developed by a joint Town/non-profit committee.

On the other hand, at this point in the TOCI's evolution, the Town's administrative capacity to provide additional services is severely limited. Moreover, supporting services voluntarily does seem to be more acceptable to residents for now than doing it through taxes, though some residents complain about the multiplicity of organizations, the burden of having to recruit volunteers for boards for all of them, and their multiple requests for money. Since the number

and variety of the organizations was, in part, a response over time to the lack of island services provided by Cumberland, it is possible that over the coming years a gradual process of rationalization of the organization of services will take place, not only between the non-profits and the Town but between the non-profits themselves.

The balance between the island's new government and its voluntary organizations is very much a work in progress. The Plan simply recommends that the Town and the non-profits work together to maintain and improve the island's services.

3. FUTURE USE OF THE TOWN'S LAND AND WATERS

Compared with the issues related to maintaining a balanced population that can sustain the year-round working community, land use is a secondary concern for the Town. Moreover, the Town of Chebeague Island covers 12,701 acres, 10,482 of which are water. The land area of the Town is spread out between 14 islands and parts of two others. Some are rock outcrops, or are less than an acre in size. The largest island, Great Chebeague itself, is only 1,926 acres. The waters of Casco Bay are central to the economy and to the identity of the Town.

This means that for planning purposes, the Town of Chebeague Island must consider not only the way its land is used, but also how its waters are used. This section is made up of four chapters. They divide up the territory and planning issues into roughly three areas: the land, the water and the interface between them, with two chapters on the land – one on future land use and the other on historical and archaeological resources. These are all tied together by the Future Land Use Map on pages 117 and 127, and the Future Use of Town Waters Map on page 171 which represent the goals in these chapters in graphic form.

The single goal that ties all these chapters together is the idea of guiding ongoing, sustainable use of the Town's land and water, while maintaining its rural character.

Preserving the Rural Character of the Town

Most residents, both summer and year-round, think of Chebeague and its larger town as a rural place and want to keep it that way. In a survey for the 2000 Long Range Plan, preserving the rural character of the island ranked second of 19 specific issues asked about, with a score of 6.34 where 7.00 meant the Town should give the issue “a great deal of attention”. Growth and development” ranked as the most important issue in an open ended question, mentioned by 48 percent of respondents. In this plan's survey, 41 percent of all respondents spontaneously wrote about preserving open space of all kinds. The islands' natural resources – the ground and surface water, the Bay and the land – lie at the heart of this image of the Town as a “rural” place. More than 20 years of steady growth in the number of houses on the island makes this an issue high on many residents' agendas.

What does it mean to say that a place is rural? Does this mean it is a pristine wilderness? Since the Town's islands have been occupied by whites for more than 200 years and by the Abenaki Indians before them, the islands clearly have not been a wilderness for hundreds of years. Does it mean that the islands' natural resources such as the land and the water produce income? This is certainly the case with the Bay's waters. Lobstering, clamming and sometimes scalloping or fishing for pogies remain central to the Town's economy. On the other hand, the land now has less value for growing crops, grazing animals or logging trees than it has for house-building, so farming and tree harvesting make up only a very small portion of the island's economy. But open space and the island's rural character are essential to vacationers who are another pillar of the Town's economy.

“Rural” means freedom of movement, of access to woods and fields, for work or pleasure. It means being able to work in and on the Town's waters. It means having views of the ocean or

being able to get to the shore even if you don't own it. It means being able to go to another island for a picnic.

Why is "rural character" important in the Town of Chebeague Island? This is one of the characteristics that attracts people to live here year-round and to come to enjoy recreation in the summer. People want to be able to walk in the woods and see the flora and fauna that live there. They want historic trails to be preserved, not closed off. In addition, the relatively low average density of development has also saved taxpayers money by making it unnecessary for the Town to develop expensive urban infrastructure such as water lines, sewers, treatment plants, and engineered storm-water collection systems. The Bay's waters still provide livelihood to some island residents, and preservation of open land could provide more.

Planning to keep the use of the land and the water sustainable over time is critical to a Town with clear limits on its resources.

3.a. FUTURE LAND USE

Maintaining the rural character of the Town's islands is a central goal of this Plan. How can this be done in the face of continued development pressure? The short answer is two-fold. One, residents must define areas of the islands that they want to see remain substantially rural, and work with land owners to keep them that way. Second, development, primarily of houses, will continue, so the challenge is to encourage it to occur in areas that are already developed rather than in areas that are still mostly undeveloped.

Chebeague has never had a plan that designated areas on a map for different kinds of land uses. It has never needed one. It does have areas zoned on a map for residential and business uses (Map 1), but, as will be explained below, these do not reflect much difference in actual use. In fact, Chebeague's land use – mostly residential with some businesses and public facilities mixed in – is fairly uniform. The one difference that people notice is that some areas are more developed than others, so that some parts of the island are almost like villages, while others seem quite rural. This diversity in the landscape is something that residents, both year-round and summer, value. New development will continue to occur and this distinction may be increasingly blurred. However, shaping where development goes is possible, and that requires a map showing where it should go.

This chapter makes recommendations on future land use in various areas of the Town. The first sections describe the land use patterns that have developed in the past, that exist now and may occur over the next ten years. The second looks at the central land use issues the Town should deal with. The third describes how the Comprehensive Planning Committee developed criteria for growth and rural areas and developed strategies for encouraging new development to locate in the former and not in the latter.

The result is a Future Land Use Map (Map 2) and these recommendations for getting to it.

Goals and Recommendations

The Goal is: SIMPLIFIED LAND USE ORDINANCES DESIGNED TO ACHIEVE THE TOCI'S GOALS.

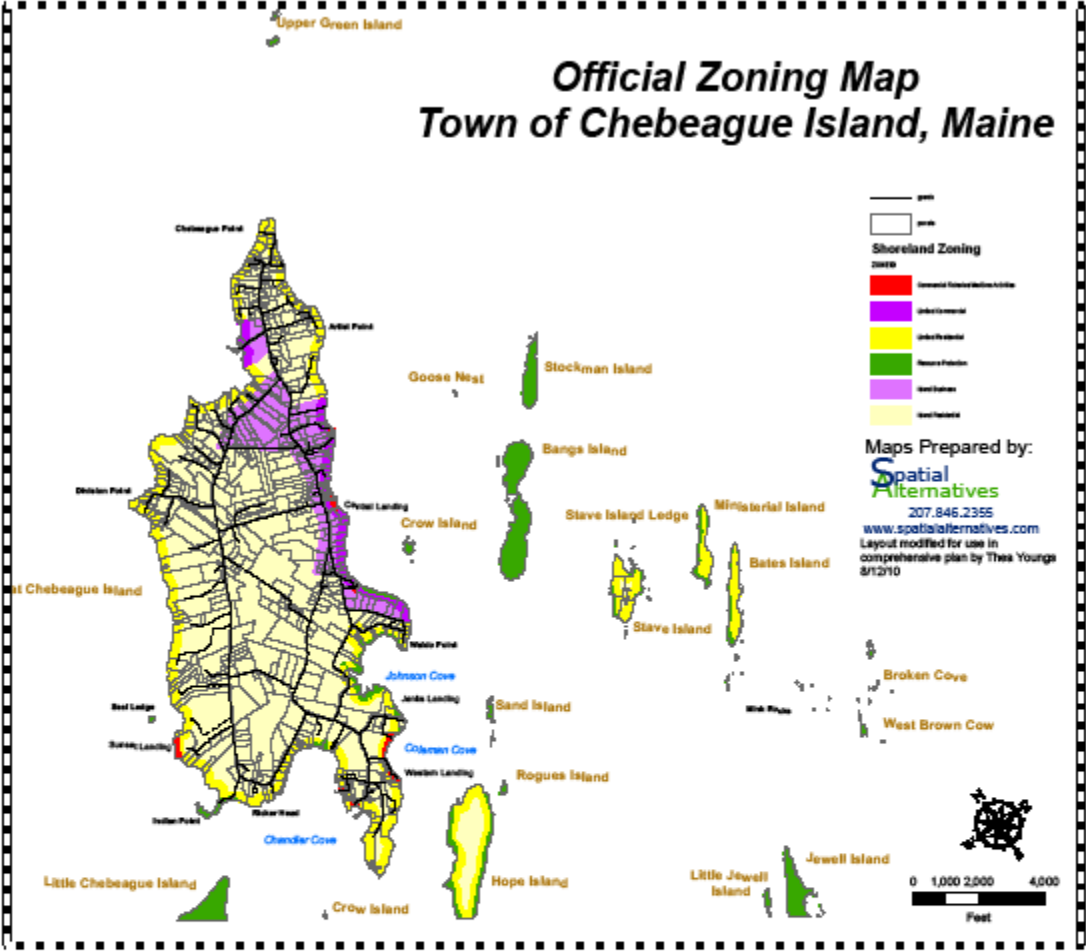
Recommendation: The Selectmen should appoint a committee – either an ad hoc or a standing committee such as the Planning Board – to revise the land use ordinances.

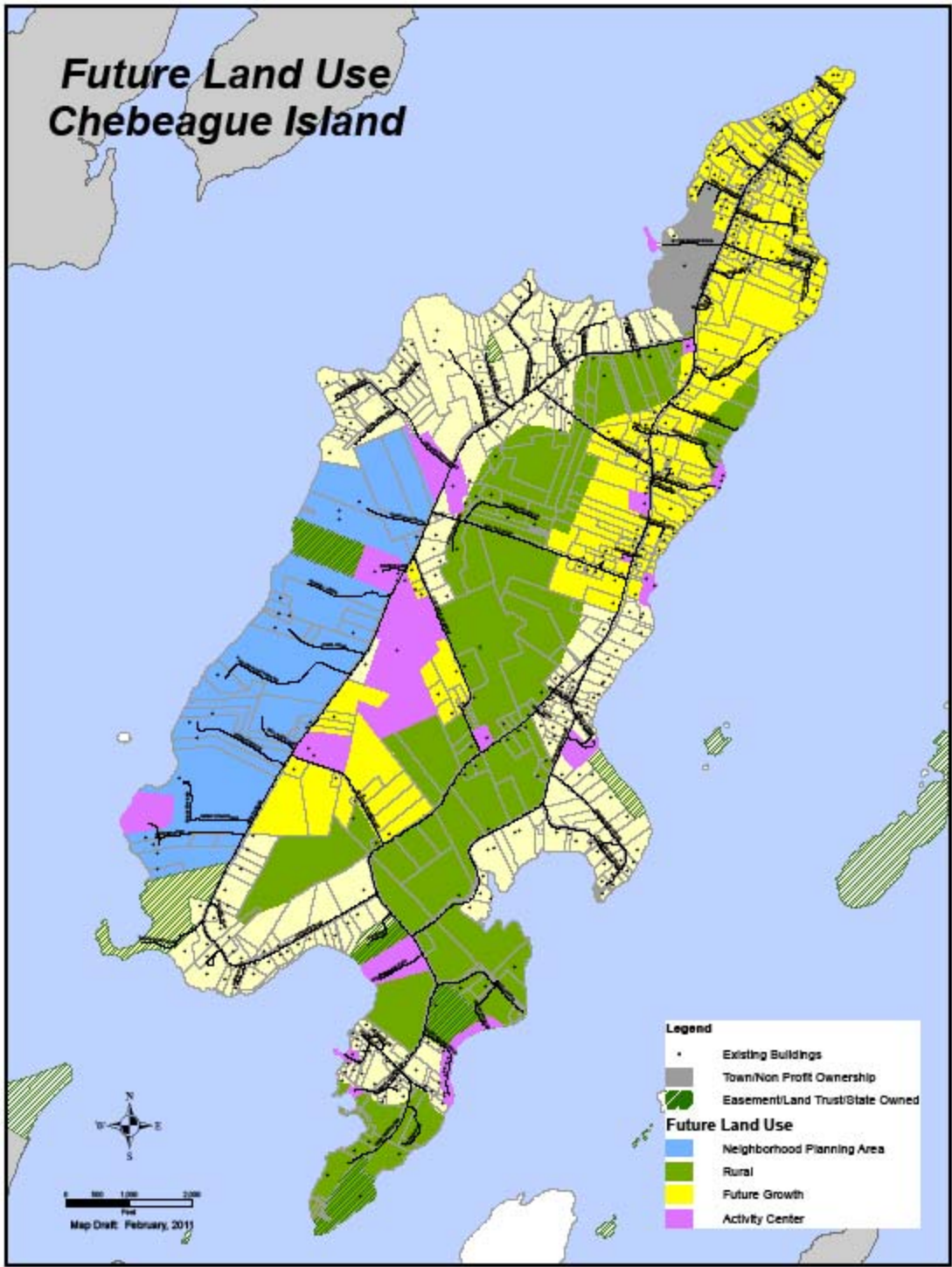
Recommendation: The Town should revise the current Zoning Ordinance inherited from Cumberland to better meet the Town of Chebeague Island's needs and values and to carry out the goals and recommendations of this plan.

Recommendation: In this revision, maintain the basic 1.5 acre lot.

Recommendation: In revising the land use Ordinances, the Town should consider having only one zoning district on Great Chebeague that would maintain the present zoning practice that

Map 1:





Map 2

allows commercial uses in residential areas as home occupations, home-based occupations or as business buildings reviewed by the Board of Appeals and the Planning Board.

Recommendation: Any single zoning district proposal should develop performance standards related to such potential problems as noise, odor, light, traffic and parking to evaluate applications for businesses in residential areas.

Recommendation: The Town should revise the current Subdivision Ordinance inherited from Cumberland to better meet the Town of Chebeague Island's needs and values and to carry out the goals and recommendations of this plan.

Recommendation: Revise the Zoning and Subdivision Ordinances so that development standards such as setbacks can reflect the particular style of an area's existing development.

The goal is: PRESERVATION OF CRITICAL NATURAL AREAS, OPEN SPACE AND RURAL CHARACTER.

Recommendation: The Town should develop an open space plan to define critical natural areas and areas for farming and forestry. It should also include a plan for identifying and preserving existing trails on the island, and for creating new ones, where appropriate.

Recommendation: Zone land (including Springettes and Bennett Cove and Rose Point) that meets the legal standards for Resource Protection under Shoreland Zoning, as Resource Protection areas.

Recommendation: Work with landowners to encourage critical natural areas such as upland forested wetlands to be protected by conservation easements or enrollment in the State Open Space Program.

Recommendation: Work with landowners to encourage appropriate use of areas that are suitable for farming or forestry. Productive uses are encouraged. More ideas for how this might be done are found in the Chapter on Agriculture and Forestry.

Recommendation: Explore having the Town adopt an open-space/recreation impact fee on new development. The money collected by the fee would be used to purchase development rights or land to be kept in open space.

Recommendation: The Town should consider making a yearly allocation to the Capital Improvement Budget for the purchase of development rights in rural areas.

Recommendation: The Town should accept private contributions designated for land conservation.

The goal is: PRESERVATION OF OPEN SPACE AND RURAL CHARACTER BY CONCENTRATING NEW DEVELOPMENT IN ALREADY-DEVELOPED AREAS.

Recommendation: Designate public and non-profit parcels and facilities such as present or possible wharves, or Town or non-profit buildings as “activity centers” or growth areas where the Town expects to spend 75 percent of its growth-related capital expenditures. In the future, to be created, renovated or enlarged, these may require local, State or Federal funding which must be spent in growth areas.

Recommendation: In its revision of the land use ordinances, the Town should encourage clustering of housing in several already-developed and one new hamlet by allowing development on lots smaller than 1.5 acres.

Discussion:

Evolution of Land Use Patterns on Great Chebeague

In the 19th century, Great Chebeague developed as a community based on fishing, farming and maritime trade. Toward the end of the century it also became a destination for summer vacationers. These economic activities were rural in character, and used the natural resources of both land and sea.

Chebeague Island has never had a single central village, around a harbor, for example. The island is large enough so that it was difficult to walk to a single central “town” area. In the 19th and first half of the 20th centuries there were multiple stores, schools, churches and wharves located in different parts of the island so that people could walk to them. In the 1950s Town services on the island expanded, and Cumberland simply located facilities on land that the Town happened to own or was able to buy. Typically these were not built in existing population areas. As a result, the pattern of decentralized facilities and separate neighborhoods has been built into the physical fabric of the island.

Residential Development

Houses tend to be located in “hamlets” or neighborhoods where the density is greater than the surrounding areas. These came about in several different ways. Some were the result of families dividing farms up among later generations. These more populated areas also sometimes became sites for businesses, local community buildings and/or a private or a steamship wharf. Hamlets like this include the East End and The Center, Coleman Cove and Chandler’s Cove.

Other settlements were formal subdivisions. Early in the 20th century there were a number of subdivisions such as Cottage Road and the Massachusetts Colony, largely on the shore, for summer houses. Since WW II there have been four major subdivisions: Cart Road Acres (1972), Division Point/Division Shores (1975), Rose Point (1989) and School House Road (1990). These later subdivisions were not intended primarily for summer houses. But all except School House Road have shore lots, though in Cart Road Acres they could not be developed initially.

Over the past 50 years, these hamlets have become less clearly defined, and the rural areas between many of them have become at least partly developed. In addition, previously little-developed areas like the Back Shore and Deer Point have seen quite a lot of building, often on fairly large lots.

The distinction between built up and more rural areas has also been blurred by the increase in lot sizes. In the developments between 1900 and 1920, lot sizes could be as small as one fifth of an acre, though few areas were built out fully to this density. When Cumberland first adopted zoning in 1949 the lot size on Chebeague was 6,000 square feet. It increased to 1 acre in 1959, and to 1.5 acres in 1984.

Commercial Development

The basic land use pattern on Chebeague is that most structures are either houses or buildings for public and non-profit organizations. This does not mean that Chebeague is just a residential community. In fact, on Chebeague 85 percent of the jobs held by islanders are jobs on the island or its waters. There simply is not much physical separation of commercial and residential land uses. Most businesses are located at or in their owner's house. The island has only five businesses where the building for the business is not at the owner's house.

Just over 10 percent of the houses (48) are used as home-based construction and fishing businesses where the worker keeps materials and tools at the house but does most of the business off-site. One of the most important provisions of Chebeague's Zoning Ordinance is the one that allows, as permitted uses in both the Business and the Residential Zones,

“uses related to commercial fishing, including storage and repair of traps, seines, boats and other equipment, the keeping and cooking of fish for sale at retail on the premises, and fish processing as a home occupation. (Sec 204.1.A.4.)

Another four are regular home occupations where the work is done in the house. Finally, three other businesses are in separate buildings on the owner's house lot.

This mixture of residential, commercial and institutional uses survives despite the formal division of the island into residential and commercial zoning districts. The reason is two-fold. One is that any use allowed in the Island Business zone is also allowed in the Island Residential with approval from the Board of Appeals and a site plan review by the Planning Board. The second is that Chebeaguers value businesses on the island and have simply developed a fairly high tolerance for mixed uses unless the conflict from such things as noise, traffic or odors are extreme.

Rural Areas

Chebeague is not a farming community now. However, most residents, both summer and year-round, think of Chebeague and its larger town as a rural place and want to keep it that way. Currently there are a number of conservation easements on parts of the shore. Some privately owned areas are still quite rural. The central upland along the spine of the island is fairly sparsely developed. Some of it is in the State's Tree Growth Program, which provides temporary protection. The same pattern of sparse development, and some Tree Growth protection is also characteristic of much of the area between North Road and the back shore.

The current land use pattern is shown in Map 3. In most land use maps houses are shown in yellow, and commercial areas are shown in red. In this one, however, houses that are also businesses are shown in orange. This shows

Map 3

Town of Chebeague Island 2008 Land and Economic Use

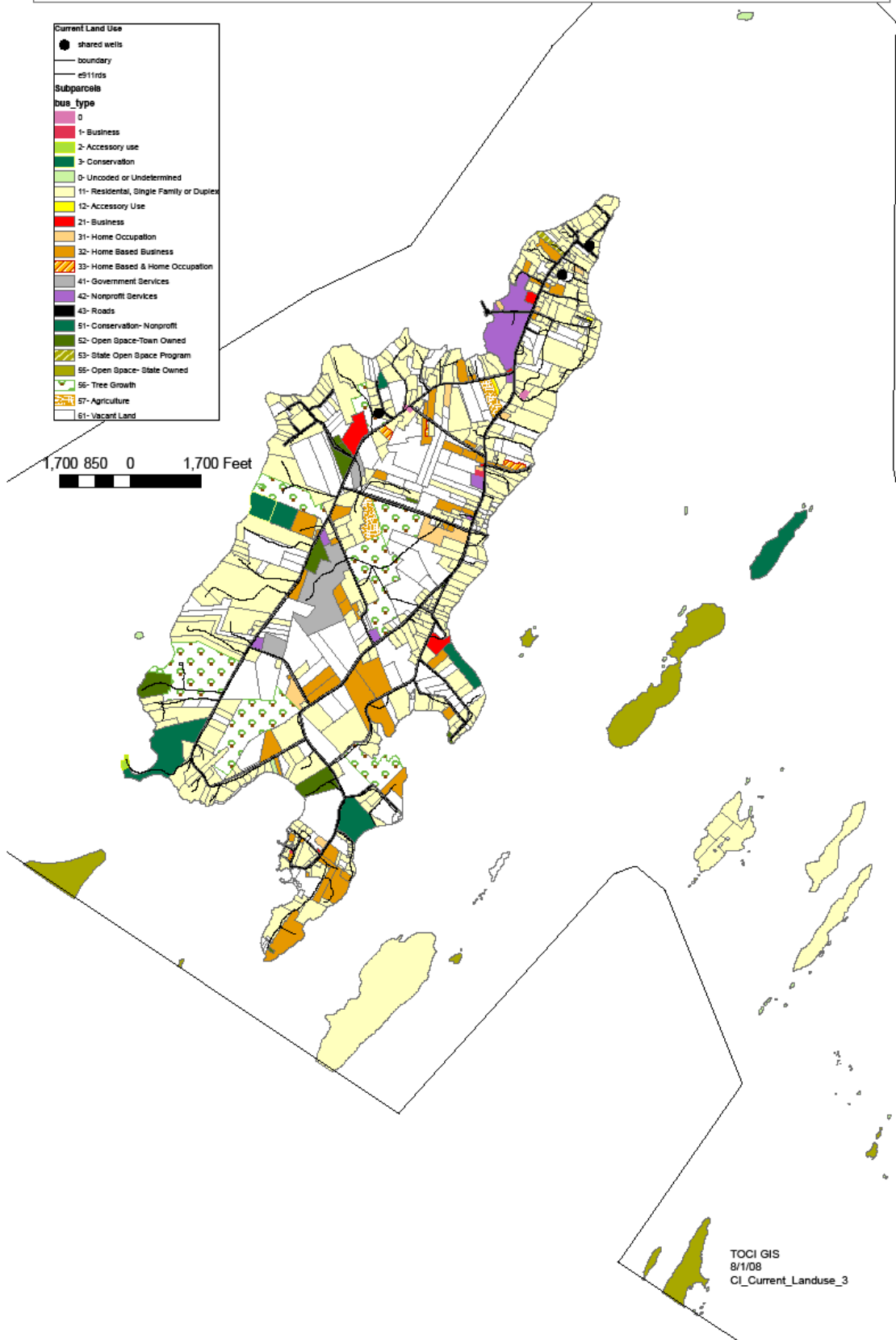


Table 1: Past and Projected Land Use on Great Chebeague Island

Type Use	1957	1988	1998	2008	20 year average	2018
HOUSING						
Year Round Houses	96	133	148	164	1.55/yr	181-190
Other Yr-Rd Housing	?	4	6	6	.10/yr	10
Summer Houses	224	233	259	298	3.25/yr	330
Total	320	370	413	468	4.9/yr	521-530
COMMERCIAL/ INSTITUTIONAL						
Free-standing Commercial Buildings	?	6	8	11	.25/yr	13
Institutional/ Public Buildings	7	7	10	12	.25/yr	14
Total	7+	13	18	23	.50/yr	27
PROTECTED OPEN SPACE						
In acres	0	16 ac	43 ac	95ac	3.95 ac/yr	210 (@121%)

clearly how housing and commercial uses are intermixed on Great Chebeague.

Recent Development Trends

Chebeague has about 490 houses, businesses and public or non-profit buildings. It also has some land uses, like the wharves and the gravel pit, that have no buildings. The great majority (95 percent) of the buildings are houses.

As Table 1 shows, the most apparent trend over the past 20 years is the growth in the number of houses. In the 1960s the rate of construction averaged one house per year. In the 1970s it rose to two; in the 1980s, to three and in the 1990s to 3.5. Between 1998 and 2008 it reached 5.5 per year due in part to an artificial “boom” created by an unsuccessful effort in 2001 to institute a 3 houses/year cap on building. Fully 21 percent of all the houses now on Great Chebeague and Hope Islands have been built in this 20 year period. The houses built between 1998 and 2008 consumed 203 acres of land or about 11 percent of the island land area.

Where has this housing been built? Over the past 20 years almost half of the houses built have been on the shore. Of the 55 houses built since 1998, a quarter were built in Chebeague’s five

post-war subdivisions, while the other three quarters have been on existing single parcels. The construction in these subdivisions has meant that four of them are now largely built out. In the absence of new subdivisions, an even larger proportion of new construction will occur in the future on single lots or two-lot divisions.

Also during the 20 years since 1988, 71 acres of open land on Chebeague (and another 16 on Stockman Island) have been protected by conservation easements. The Town also owns protected open space at Chandler's Cove Beach.

Projecting Future Development

In this plan expected development over the next ten years is simply a projection of what has happened in the recent past. This is shown in Table 1. Given the current state of the economy, however, this amount of growth is probably excessive.

Chebeague has had considerable development over the past 20 years, and especially over the past ten years. If this were to continue, the projected development of houses and businesses between now and 2018, shown in Table 1, would require an additional 12 percent of the area of the island. In terms of rural land, if the past is any guide, about 115 more acres of protected open space might also be created.

Many residents say that they would like all new development to be stopped altogether. But they also would like to be able to have their children and grandchildren have places on Chebeague, and they like seeing new young families. They may even be pleased to have friends, who fall under the islands' spell, build summer houses or move to the island year-round. As Pogo said "We have met the enemy and it is us."

And, even if the current recession means that development over the coming ten years does not continue at 5.5 houses a year as it has over the past ten, the respite will not last long. While it does, Chebeaguers have the opportunity to decide what areas of the Town should be kept rural, and how to develop mechanisms to discourage development in these areas, while allowing it to occur in already built up parts of the islands.

Land Use Issues

The Town has two major land use issues reflected in this chapter's recommendations. The first is that when Chebeague became a town in 2007, it inherited zoning and subdivision ordinances from the Town of Cumberland that are, in many provisions, not a good fit for the island. These ordinances were in force on all the islands from the time that Cumberland initially adopted zoning in 1949. But as mainland Cumberland became increasingly suburbanized the ordinances were revised and adapted to deal with issues and conditions that primarily affected the mainland. In some cases, such as the adoption of higher standards for private roads, the islands were simply exempted from the new standards and given their own. In other cases, such as the housing setbacks and public road standards, the mainland pattern was applied to the island without considering whether it would be suitable or not. Now that the Town of Chebeague Island is independent, it can develop land use ordinances that meet its needs.

The major *substantive* land use issue facing the Town, as has been indicated already, is the gradual loss of undeveloped land. The island's perceived rural character has largely been

preserved because so many of the houses are on lots larger than the 1.5 acre minimum, deep in the woods or along the shore, so they aren't visible from main roads. Even so, the increased demand for land has meant that land that was "rural" in the memory of current residents has become developed. Areas along the shore like Division Point and Rose Point, where residents used to picnic in summer, and hunt in the fall, were subdivided in the 1970s and 80s and are now nearly built out. Since the rusticators arrived in the 19th century and Chebeague gradually ceased to be an island of farms, shore land has always been more desirable and more expensive than land inland. This led to a pattern in which houses ringed the shore, while the hills in the center of the island served as a largely wooded, less developed island-within-an-island.

But as shore-front lots have become scarcer, and land values and taxes have risen, some year-round residents who used to live on the shore have moved inland. Now even some summer people are doing the same. Inland "rural" land is increasingly valuable for development.

The loss of rural places has encouraged a greater interest in protecting valued places, especially ones on the shore, like Indian and Deer Points, by placing them under conservation easements. But, as long as the strong demand for land for housing continues, the island's rural character will gradually decline. This would be a significant loss, and one that could not be undone. All residents, year-round and summer alike, value not only Chebeague's waters and beaches but its woods and fields. Year-round residents choose to live on this unconnected island in part because its economy is still based on the use of natural resources, and in part because of its natural beauty. Everyone sees this as an essential aspect of life here, just as they accept the freedom of access to all parts of the island.

Revision of the Land Use Ordinances

The Current Zoning and Subdivision Ordinances are unsuitable to the island for somewhat different reasons. The Zoning Ordinance last had a major revision in 1984. Since then it has grown one amendment at a time, with an occasional whole new section for something like tower antennas. This has resulted in an ordinance where the Chebeague-only version (without all the zoning districts that exist only on the mainland) is 188 pages, with inconsistencies created by adding amendments without revising other related sections.

The Subdivision Ordinance was written for a rapidly-developing suburban town with many fairly large subdivisions. Moreover, Cumberland has also had both engineering and planning staff for many years, so the requirements for reviews are fairly complex. Cumberland, however, had no aquifer protection ordinance, so Chebeague inherited nothing on this except a brief section in the Zoning Ordinance

The Town of Chebeague Island, on the other hand is small. Its only relevant staff is a code enforcement officer. It has had only five subdivisions that required Town review since WWII. The island has two zoning districts which, as was indicated earlier, differ very little in actual practice. It also has a sole source aquifer and aquifer recharge areas scattered all over the island.

So one of the reasons for developing a comprehensive plan is to lay the groundwork for a revision of both land use ordinances and the creation of a new one covering aquifer protection. Most sections of the Plan have recommendations about issues that should be considered in the

ordinances, and many other recommendations would shape the content of the three new ordinances. The overall goal for this work is to make the land use ordinances simpler than they are now and more attuned to island needs and values.

The Plan makes no detailed recommendations about the form the revised Zoning and Subdivision ordinances should take: Should the zoning be form-based (specifying the mass of buildings, coverage of lots and relationship of buildings to the street), based on performance criteria (any use, residential or commercial, is allowed as long as it will meet certain criteria for size, number of cars, noise level and other criteria related to “neighborhood” impacts), or should it stick to the traditional pattern of enumerated uses (residential district A allows single family houses, duplexes, churches, schools, and nothing else) that the present ordinance uses. Should the Town continue to have any subdivision ordinance at all? Chebeaguers generally identify “subdivisions” with large-scale development and are generally against them. But modern forms of subdivision regulation can insure more orderly, compact development, things recommended in this Plan. Some, such as conservation or cluster subdivisions can also help to preserve public open space and may be able to reduce housing costs.

The decisions about the forms the new ordinances will take need to be made by the committees that develop them. The recommendation about the aquifer protection ordinance does suggest that it use performance criteria, but, again, it will be largely up to the Aquifer Protection Committee to decide how the new ordinance should be organized.

However, the Comprehensive Planning Committee does recognize that the existing basic land use laws have shaped development on the islands for 60 years, so that they have become part of the fabric of life that property owners take for granted and plan on. Changing the ordinances inevitably will create uncertainty and could be disruptive. In order to reduce this problem, the Committee has adopted three principles that it has used in its own planning process and proposes should also apply to the process of developing new land use ordinances:

- Minimizing changes in the Town’s existing zoning.
- Encouraging land use changes to occur voluntarily rather than making them mandatory.
- Treating all landowners fairly.

In line with the principle of minimizing changes in the Town’s existing Zoning, the Plan also recommends maintaining

- The present basic minimum lot size requirement of 1.5 acres.
- The present pattern of allowing a mixture of housing, business and public institutions.

The latter recommendation actually requires simplification of the existing zoning to make this more straightforward.

One change that will not take place in the Zoning Ordinance is modification of the Shoreland Zoning provisions. This is an aspect of the current zoning that some residents might also wish to see simplified. But the Shoreland Zoning provisions are set by State law and are an important protection for both the natural environment and the marine uses of our valuable and fragile

coastline. They may be made more strict, but they cannot be weakened. Indeed, one of the Plan recommendations is to bring the TOCI into full compliance with the Shoreland Zoning requirements.

Preserving Rural Character While Allowing for Continued Development: Defining Future Land Use Areas

The amount of new development shown in the projection of future development on the island, above, may not come to pass. But development will continue, and is needed in order to sustain the year-round, working community. So how can development continue to occur without eating away at the islands' rural character?

The principles of minimizing changes in the zoning, making change voluntary and treating all land-owners fairly were important to the process of defining areas that will be encouraged to remain predominantly rural and areas where additional development will be encouraged to locate. They also shaped the tools that are being recommended to encourage this pattern to develop.

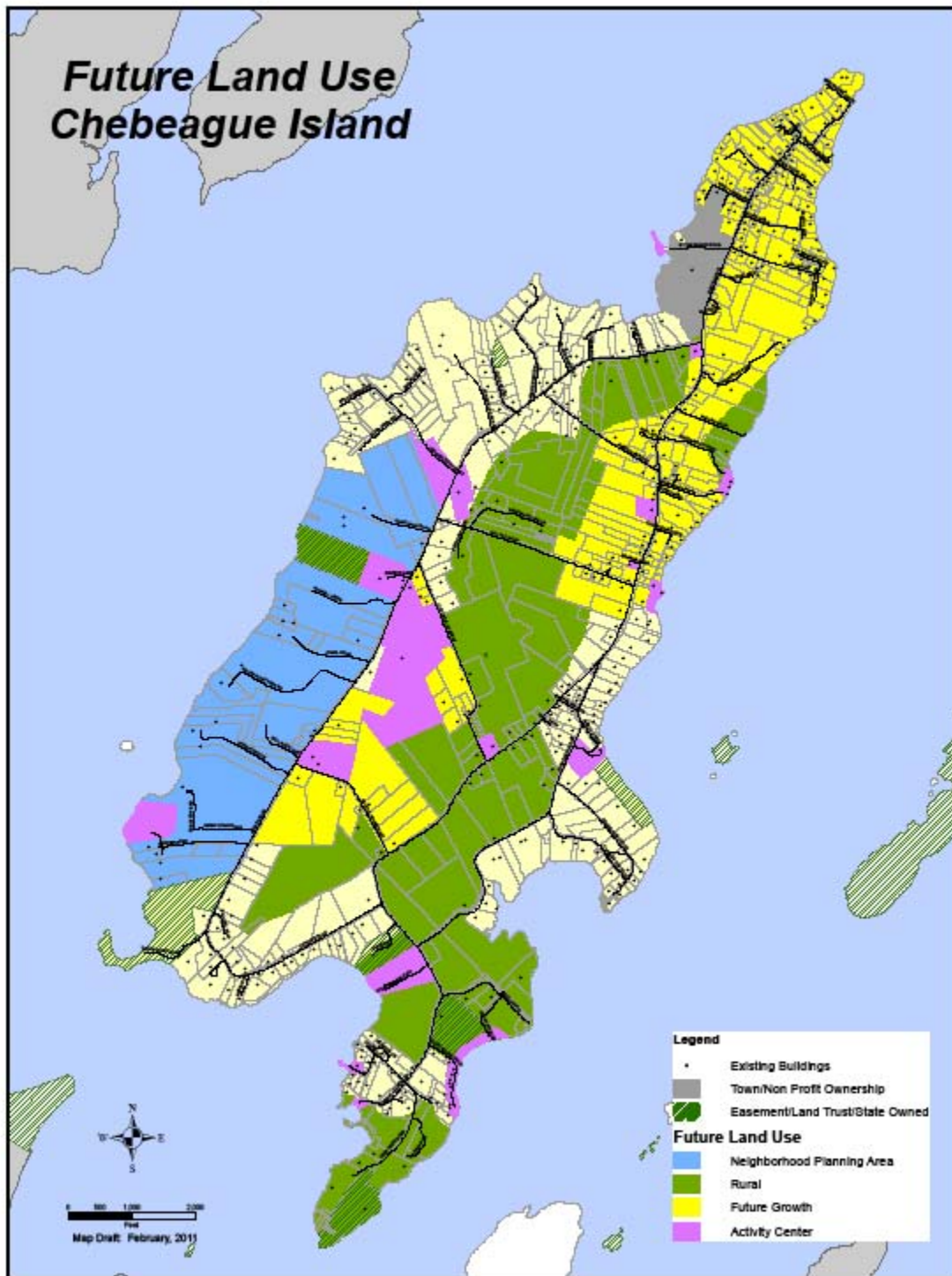
This plan envisions keeping the area along the central spine of Great Chebeague fairly rural, as it is now. New development would not be prohibited there, but public money to preserve open space would be allocated to discourage it. On the other side, the logic of the Plan is to encourage future development, whether housing or Town facilities, to take place in areas that are already developed, or in a single new "hamlet". These areas are already served by roads and community facilities.

The result is shown, here again, in the Future Land Use Map (Map 2). The five kinds of areas shown on the map were arrived at by looking primarily at two factors that suggested which areas should remain rural and where new development might be encouraged to go. One was the present use of the land. Existing buildings, and land that is already protected by Town, State or non-profit ownership or conservation easements, are shown on Map 6 a few pages on, in grey and green, with the rest of the island shown as the basic, buff colored 1.5 acre zoning area that exists now. The other factor guiding development was the various characteristics of the soils and land that constrain development (Map 5).

Existing Development: There are relatively few large undeveloped, *unprotected* parcels of land (for example, larger than 30 acres) left on Great Chebeague. The largest undeveloped areas in the Town are the undeveloped outer islands that are owned by the State or the Chebeague and Cumberland Land Trust. And there are also several sizeable parcels on Great Chebeague that are protected by conservation easements. These provide a start to preserving rural character. But a closer look at Map 4 shows that there are significant areas, particularly in the center of the island and on the North Shore that are still relatively undeveloped and that have no protection from development now.

On the other side, most of the developed areas are named and recognized "neighborhoods", or as we have been calling them "hamlets" – The East End, The Center, Central Landing/Massachusetts Colony, Rose and Waldo Points, Coleman Cove, West End/Chandler's Cove, Cottage Road and Division Point. The only areas that have a significant number of houses

Map 2:



but no specific name are the area around the Church and up Littlefield Road, and the area along North Road from the Historical Society to Firehouse Road.

Densities in these neighborhoods are not very high; only the West End/Coleman Cove area reaches one house to the acre when summer houses are included. Indeed, areas like these, as well as the East End and the Massachusetts Colony, that were developed before zoning came into existence often have the highest densities on the island. Since 1959 the minimum lot size has been one acre or greater. So many of Chebeague's "hamlets" are hardly urban, and still contain land that might be developed.

Constraints on development:

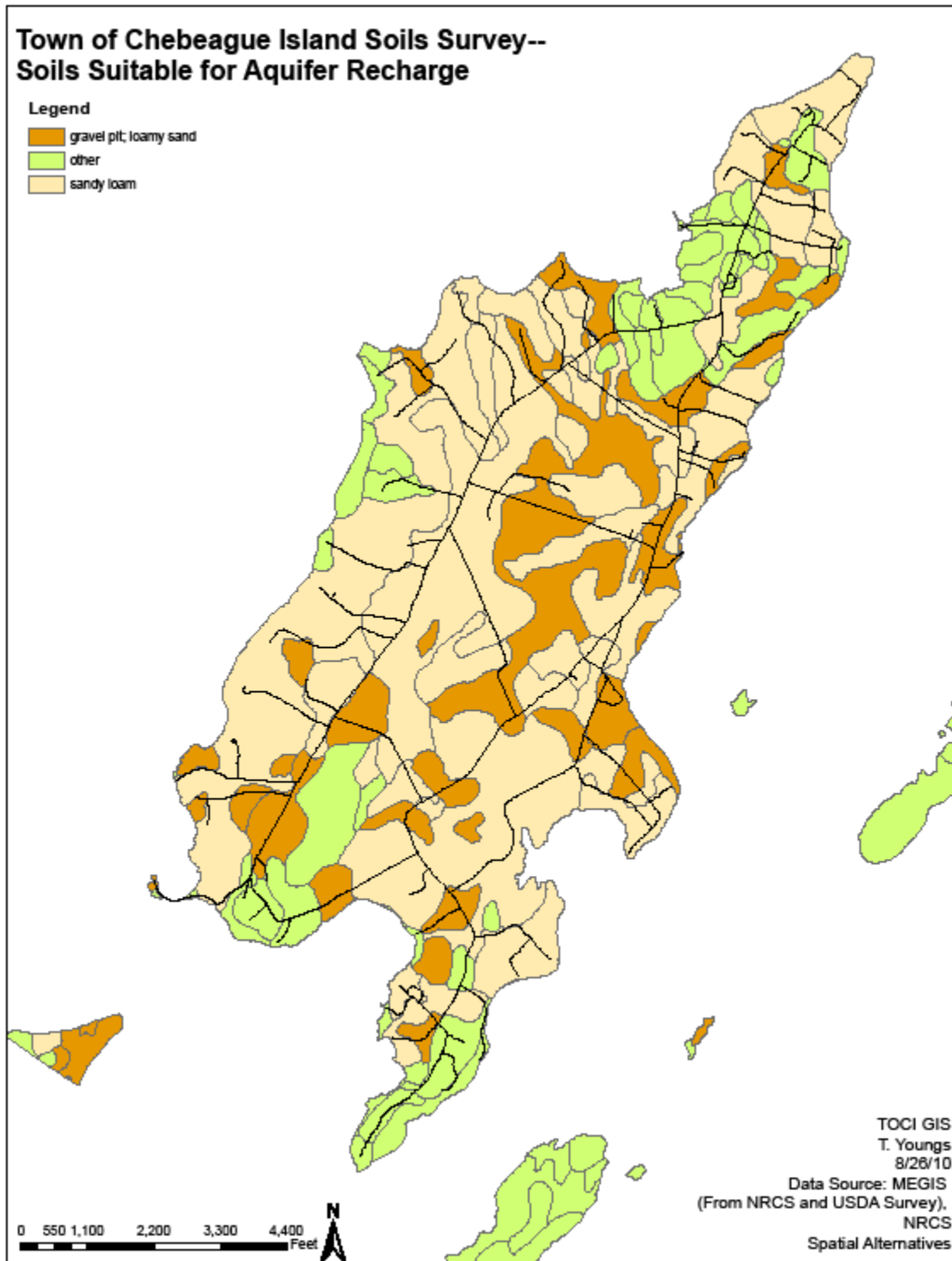
Possible constraints to development include floodplains, wetlands, slopes steeper than 15 percent, hydric soils and aquifer recharge areas. Up to World War II people built houses wherever they wanted, and where they could as a practical matter. Areas such as floodplains and wetlands were obviously not good places to build so these characteristics really were constraints. But all the other "constraints" in this list do not necessarily prevent development. They have become more serious constraints because we now recognize that these areas are either more fragile than we thought in the past, or perform functions that are important and incompatible with development.

Aquifer Recharge Areas: Most important, as the buff and orange/brown areas on Map 4 show, Chebeague has many areas where sandy and gravelly soils allow water to flow easily into the aquifer that is used for water supply. This is a serious concern since Chebeague has a single-source aquifer and pollution in one area may spread to the entire aquifer. Such aquifer recharge soils are common in areas that are already developed. In the past people didn't know how the underground aquifer worked or how vulnerable it is, and sandy and gravelly areas are often easy to build on.

Now we understand more about how the aquifer works and how it is critical to our drinking water. Some communities simply limit development on aquifer recharge soils. But where they are widespread, as on Chebeague, this is limitation not practical. Modern septic systems can keep pollutants out of the aquifer, so the Planning Committee is recommending that before it revises the land use ordinances, the Town develop and adopt an aquifer protection ordinance that would require that any new development show that it can be served by septic and drainage systems that would not pollute the aquifer, and especially its recharge areas. In addition, keeping land that is still fairly undeveloped in rural land uses also reduces the chances of polluting the aquifer.

Areas of hydric soils: These are very common on Chebeague, and pose somewhat the same problem as aquifer recharge areas because many existing houses are located in them. These are wet soils. They are not necessarily official "wetlands" but they are often adjacent to wetlands and are wet enough to make building houses, and, more important, septic systems, difficult. Chebeaguers, however, have always been able to either find or create dry spots among the wet areas, so many houses on Chebeague are located in areas of hydric soils.

Map 4:



Map 5:



Wetlands (shown in green on Map 5): These are areas that are really wet most of the time, so they are not easily developed. However, in the past, people simply filled them in or drained them for farming and building. Now we understand that wetlands perform important natural functions. They provide habitat for plants and animals. They impound rain water and allow sediments to settle out rather than draining rapidly into Casco Bay. Some provide aquifer recharge. Because of these functions, the State restricts filling of wetlands larger than 20,000 square feet.

Coastal freshwater wetlands are particularly important for animal and bird habitat, and, if they are also in floodplains, they are required to be zoned Resource Protection by the Shoreland Zoning Law. They occur behind beaches where a small frontal dune is formed at the upland edge of the beach, stabilized by beach grass, beach pea and poison ivy. Behind this berm at Springettes, Rose Point, Sandy Point, Bennett Cove, Chandler's Cove and Indian Point, fresh water from the aquifer as well as from streams and runoff accumulates. While the berm may be breached in big storms, these wetlands generally absorb heavy runoff and keep it from going directly into the Bay, allowing sediment to settle out of the water.

The wetlands at Rose Point, Chandler's Cove and Indian Point are formally protected, whether zoned as RP or not. Rose Point, Sandy Point and part of Chandler's Cove are designated as Resource Protection, but Springettes and Bennett Cove have no formal protection.

Chebeague also has many upland, forested wetlands, particularly along the south side of the spine of the island. They give rise to streams that run down to Fenderson Landing and Johnson Cove. These wetlands have no protection from development other than their wetness and the State wetland regulations.

Floodplains (shown in red on Map 5): Waldo Point Beach and Jenks Landing Beach have been designated as Federal Coastal Barrier Resources because they absorb the force of big storms and protect the shore from more erosion. This designation gives them a little protection from development. Many other low areas along Chebeague's shoreline are also in the 100 year floodplain. This has generally meant that, with a few exceptions, people have not built there in the past. Now houses are being built in some of these areas, even in the CBR areas because of the beauty of the shore.

The first round of the revisions of the FEMA floodplain maps in 2009 enlarged the areas designated as being in the floodplain. Because these changes were very controversial, a second round of floodplain delineation is beginning. The final maps will almost certainly have an impact on development along the shore of Chebeague's islands, but at this point it is not clear what the effect will be.

Hurricane Surge Areas (shown in a blue hatched pattern on Map 5) are an extension of the floodplain. These are areas that would be expected to be inundated in a Category 3 hurricane. A category 2 storm would flood less and Category 4, more.

Steep slopes (shown in orange on Map 5): Steep rocky slopes can make construction difficult, but steep bluffs facing the water, with flat areas on top create beautiful views and have been a

popular location for houses. These coastal bluffs are very fragile and at Chandler's Cove, Coleman Cove and Hamilton Beach they are being fairly rapidly eroded by the sea. Rocky slopes like those on Deer Point and Hope Island do not wash away, but are fragile in other ways. They have hardly any soil so that trees are vulnerable to blow-downs and septic systems are difficult to install. Again, the Shoreland zoning requires them to be zoned Resource Protection unless they are already developed. It is not entirely clear what areas of steep slopes on Chebeague should still be designated RP.

Criteria for Kinds of Areas

Based on the research and maps, like these of current development and land use constraints developed in the early resource inventory stages of the planning process, the Comprehensive Planning Committee laid out a set of criteria for identifying potential "rural" and "growth" areas. The areas identified by these criteria do not cover all of the island. Most of these remaining areas are shown on the Future Land Use Map as the townwide "basic" 1.5 acre-lot zone.

Rural areas

In some cases a constraint can also be seen as an opportunity for preserving an area as rural. Freshwater coastal wetlands are a good case in point. So are the large forested wetlands in the center of the island. They cannot be developed by state law, and, on the other hand, they can serve as the core for larger rural areas down the center of the island. Other criteria for defining rural areas are:

- Land that is still fairly undeveloped,
- Land that provides good animal habitat – mostly wooded, though with some openings. Only narrow, low traffic cross-roads,
- Areas that already have trails which could be developed more fully to go from one end of the island to the other,
- The Golf Course is already an active recreational open space.

Growth areas

If these are the criteria for defining rural and natural resource protection areas which should remain less developed, where should the growth that will be inevitable on the island, go? Should all the remaining land on the basic 1.5 acre map be designated as growth areas? If one of the basic purposes of the Plan is to retain the rural character of the island, this would seem counterproductive. Instead it would make more sense to try to encourage new development to occur in areas served by roads and community services, that already are developed. In the end, three kinds of growth areas were identified, each with its own criteria.

Criteria used for defining already existing growth areas are areas that:

- Are already moderately densely developed,
- Are well defined/named neighborhoods,
- Have a scale that encourages social interaction with neighbors and where destinations are within walking distance,
- Have businesses and/or services that serve the whole island,
- Are served by roads, telephone and electricity,
- Could be on an island-loop bus route.

Criterion used for a new growth area:

- An area that has some businesses and or services that could form the nucleus of a neighborhood like the ones above.

Criteria for Activity Centers:

- Areas that either already have public or non-profit facilities, or that might be sites for such facilities.
- The facility may in the future require local, State or Federal growth-related investment.

Finally the Committee found that there was one area of the island that didn't fit into any of these categories, and, in fact, barely fits into the basic 1.5 acre lot area. After considerable discussion the Committee decided to propose, for reasons explained below, that this area be designated for future "neighborhood planning" between the Town and the area's residents.

Rural Areas

On top of the basic 1.5 acre zoning, shown in buff on Maps 2 and 6, the Committee envisions Chebeague as preserving two kinds of rural areas, shown in green on Map 7. The first is land that provides critical natural functions such as aquifer recharge through absorption of stormwater and feeding and spawning or nesting grounds for valuable animals and birds. Such functions are important to preserve for the sake of both people and wildlife.

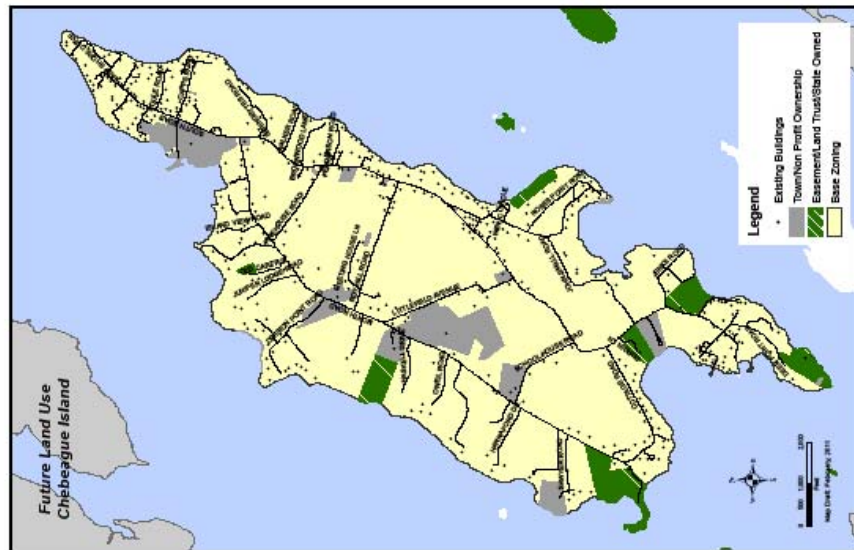
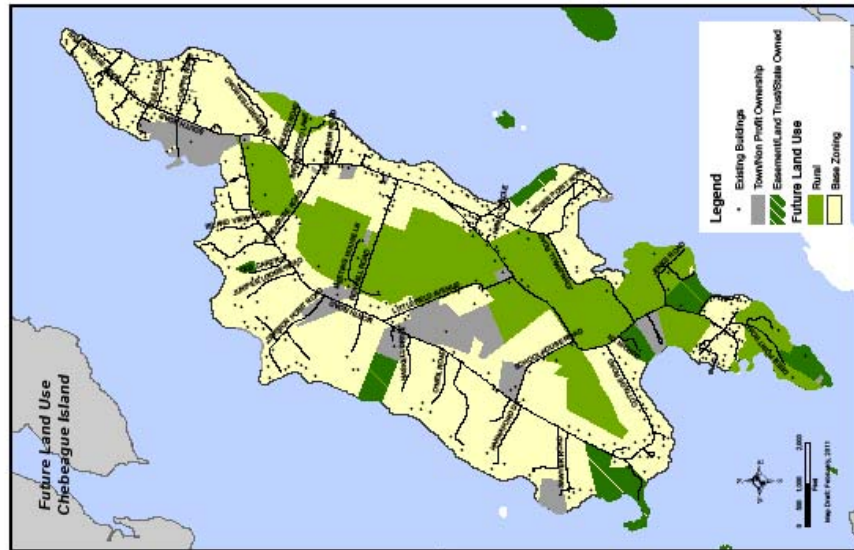
The second kind of rural area that should be protected is land that is useful to people – for farming or forestry, or because it has scenic or passive recreational value. These areas are potentially economically useful – for tourism, for example. But they also provide natural beauty and a real connection to the island's history and traditions.

The three major areas that are shown on the Future Land and Water Use Maps as rural are: the central upland of Great Chebeague Island, coastal freshwater wetlands, and the outer islands.

Critical Natural Resource Areas. These areas are ones that should remain undeveloped because they are particularly vulnerable and/or perform important functions such as aquifer recharge, stormwater retention or breeding and nursery habitat for animal species we value. In this Plan critical natural resource areas are defined conservatively, covering primarily areas that cannot legally be developed such as beaches, steep slopes, major forested wetlands or coastal wetlands in the Shoreland Zone.

Some areas on Chebeague are already in Resource Protection, as are some of the outer islands because they are bird nesting or seal haulout areas. Several additional wetlands are recommended to be placed in Resource Protection.

Maps 6 and 7:



Working Rural Land: As was indicated earlier, most of the areas that have already been preserved as Town open space or conservation easements are along the shore. Some, such as the Rose Point wetland and the Hook itself, are critical natural resource areas either entirely or in part, but others, such as the Higgins Farm field, are not.

Along the central spine of the island, forested wetlands can serve as the core of a larger area that this plan has designated as “working rural”. While this area contains houses, the density is low.

Some of this area could be used for farming, forestry and recreation. It could extend almost from the junction of North and South Roads at the Historical Society down the spine of the island to the wetland around Lovers' Lane at the West End.

This area covers the island's single farm and four areas that are currently in the State Tree Growth or Open Space programs. But most of the land is not protected in any way and is zoned for 1.5 acre lots (or 3 acres for back lots). Most of this area is already traversed by trails that provide access not only up and down the island but also into the settled areas closer to the shore. Again, these trails are not formally defined or protected. But they could be.

Growth Areas

Outside the rural areas, the Plan designates two kinds of growth areas, shown on the map in purple and yellow. These are areas where the Town will make most of its future capital investments, and where it may need the help of State and Federal funds to build, improve or expand facilities and services. On Chebeague, however, because there are no public sewers and waterlines, and the road system is largely complete, these expenditures will probably not guide future development as much as the extension of such "urban" services would on the mainland.

Activity Centers (in purple on Maps 8 and 9) are mostly small areas with a single use that might have some growth in the future that would qualify for public funding of some kind. There are two kinds of activity centers:

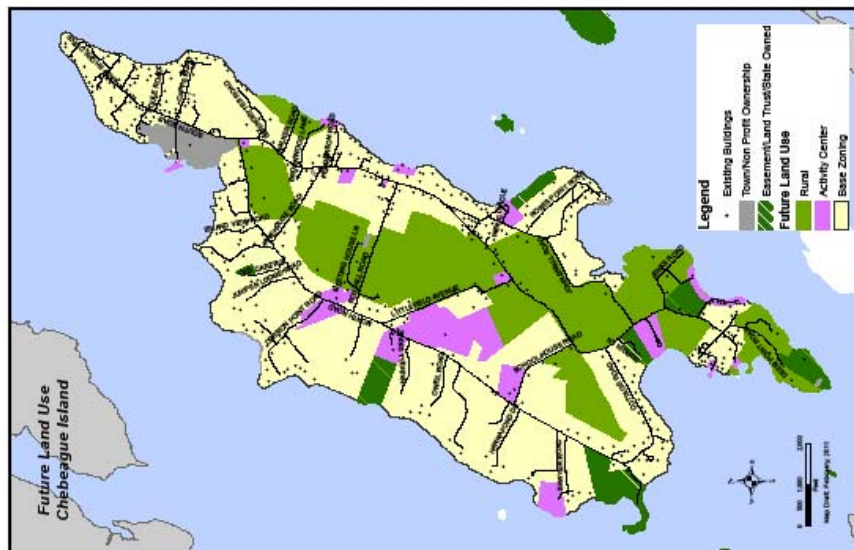
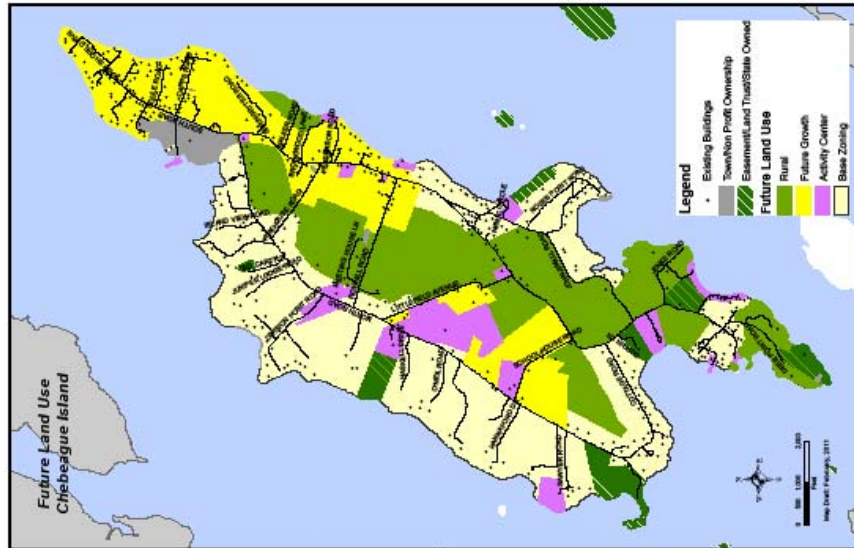
1. *Marine infrastructure activity centers* are areas where the Town may need State or federal financial assistance, particularly for wharves. All of the Commercial Fishing and Maritime Activity areas are identified here.

2. *Public service infrastructure (Town and non-profit)* are areas that could also require future State and/or Federal financial funds for enlargements or improvements. Town facilities include the School, the Transfer Station, the Town Garage, the Firehouse/Town Office, Chandler's Cove Beach, the Cemetery and a Town-owned parcel that has been identified for possible year-round/affordable housing development. Non-profit facilities include the Commons, the Historical Society, the Hall/Clinic/Library, the Grange, the Recreation Center and Kids Place. One business, the Boat Yard, is also included.

Residential Hamlets (in yellow on Map 9): If Chebeague wants to preserve rural areas by encouraging development to be clustered rather than dispersed, it must define the areas to receive this development, and provide incentives to encourage it to locate there. The previous mechanism for doing this, albeit one that was not deliberate, was to allow the creation of subdivisions where clustered parcels of land would be readily available for development.

Now, however, most of the land that has been available for sale in planned subdivisions has been built on. The island does have additional lots of record scattered around in already built-up areas, but few are for sale at any given time. This means that new construction is likely to take place on divisions of larger lots in areas without much development already. Two recent "spec" houses are examples. This suggests that it would be useful now for the Town to encourage both the use of existing lots of record, and the creation of a few new subdivisions in "growth areas."

Maps 8 and 9:



In addition, the Town could allow somewhat more dense development in these areas. This would not lead to rampant and unregulated development of many tiny lots. The minimum lot size, maybe 1 acre, would be set by Town Meeting, which could also require property owners to apply to the Board of Appeals to be allowed to create and build on such smaller lots. Since many lots smaller than 1.5 acres exist already all over the island, this would not create a new or unusual pattern.

The East End, the Center and Littlefield Road are three already-developed, walking-scale neighborhoods with quite distinctive characters, that have been identified as already existing growth areas. They still contain some land that could be developed. The Plan also proposes to encourage the creation of a new hamlet in the area around the School, Rec Center and Kids Place.

While these are referred to as “residential hamlets”, this simply reflects their primary land use. All were chosen as growth areas in part because they also contain commercial and institutional land uses that contribute to making them attractive places to live.

The East End: This neighborhood lies at the top of a hill, on both sides of Chebeague’s major road, South Road which bisects East End Point. The entire area is surrounded by water, with a beach on the south side and a bluff on the north. It is one of the most densely built up parts of the island (.69 houses/acre), and, because the houses along South Road have fairly shallow front yards, it is the most “village-like” area on the island. Except for the summer houses near the end of the point, the houses were generally built as year-round houses between 1840 and 1910 in Greek Revival, Victorian and Edwardian styles. Some are quite large, having been built or enlarged to take in boarders.

In the 1950s and 60s many of the year-round houses were bought by summer people, so the East End has a relatively small year-round population now. This would certainly be an attractive neighborhood for people to live in year-round again. But since many of the houses are on small lots, if this were to happen, the area might need to have some kind of sewage treatment system more efficient than individual septic systems. This might require public investment.

The East End is bounded on its west side by the Chebeague Inn, the Golf Course/Tennis courts and the Stone Wharf. This sounds like a real estate ad for a convenient and pleasant location. The Inn overlooks the Golf Course with beautiful sunset views. The Golf Course defines the area with a large, highly manicured open space that is used by island people and visitors from the mainland. Because Wharf Road runs up to South Road from the Stone Wharf, this is many visitors’ first introduction to the island.

The Center and Central Landing: Before World War II Central Landing was the most important of the several Casco Bay Lines landings on the south side of Chebeague. As the name indicates, it was the landing for the center of the island and the stop for the mail. The wharf never went back into use after the WWII, and no longer exists.

Despite the demise of the wharf and ferry service, The Center remained the area that was the island’s commercial center during the 1950s and 60s, though now its commercial uses are only “The Store” and the Slow Bell Cafe. Now it is also the location of the Library/Health Clinic/Hall complex which is a major draw for the whole island. On patriotic holidays it is the area of the island decorated with flags.

Quite a lot of the housing in this area is occupied year-round. The overall density is .42 houses to the acre.

Littlefield Road: This is a small, largely developed area in the middle of the area that is primarily designated as “rural”. At one end of Littlefield Road is the Island Commons assisted living facility, while at the other are the Church and the Parish House. Behind the Church is the Town Garage. Many of the houses date to the 19th century, but new ones have been built in the past 30 years and a few additional ones could be added.

School House Road: The area around the Chebeague Island School has in recent years become the site of both the Recreation Center and Kids Place, the island’s day care center. These could make up the institutional core of a nice residential neighborhood. The area to the south of the School is the island’s most recent subdivision which is not fully built out. Development might extend some way up North Road on the south side. West of the school there are a few houses and some fairly large, undeveloped parcels.

Implementation Strategies: Encouraging Rural Conservation and Growth Areas

The first, basic assumption of this plan is that changes in the Zoning Ordinance will retain the current 1.5 acre lot size across the whole of Great Chebeague and on the other islands as well. One of the Plan’s goals is also to continue to allow mixed residential, commercial and institutional uses on Great Chebeague, making the policy clearer in the Land Use Ordinances.

Beyond these basics, the Plan recommends defining rural areas and trying to preserve them as only moderately developed, in part by also defining growth areas and encouraging new development to take place in them. The most effective way to do both of these is to provide financial incentives to land owners.

There are a variety of ways to financially encourage residents to keep land undeveloped. Chebeaguers already use the tax incentives in the State Tree Growth and Open Space Programs and could be encouraged to use them more. The Land Trust acquires easements, often by donation but sometimes by raising money publicly and purchasing them. It and the Town could also buy development rights. Two of the recommendations in this Plan are to develop an open space and trails plan and then to make a yearly allocation in the capital budget to purchase development rights. Such an open space plan could also be the basis for allocating money from an open space and recreation impact fee, if the Town chose to adopt one. Cumberland had one but it was not carried over to the new Town. Finally, these monies could be augmented by private donations to the Land Trust or the Town. These financial incentives would all leave the rural land in its original ownership, but insure that it remains in its rural use.

Encouraging housing subdivisions that are designed to cluster houses and reserve undeveloped land would also allow development to take place, even in rural areas, in a way that would also preserve open space. Subdivisions seem to be disliked on Chebeague because they represent “big development”. But they provide the Town with much greater control over how blocks of land are used than lot-by-lot development does. Moreover, the subdivisions now on the island such as Cart Road Acres, subdivided in 1972, and Rose Point, subdivided in 1989, have taken 20 to 40 years to be built out, and over those years have provided a supply of available lots that are not located at random across the island.

Chebeague's Zoning Ordinance already has provisions allowing "cluster subdivisions" which maintain the 1.5 acre overall density but allow subdivisions to have smaller than standard lots in order to keep some of the land in open space. A better variant of this kind of subdivision is what is called a "conservation subdivision". When the land use ordinances are revised this kind of provisions can be evaluated more closely for their appropriateness to the scale of development on Great Chebeague.

The other mechanism to encourage development to be located in growth areas is to allow lots smaller than 1.5 acres in those neighborhoods. This could also have the advantage of creating some lots that would be less expensive than larger lots.

A Future Neighborhood Planning Area

Finally, this plan makes no recommendations for one area of the island but suggests, instead that the Town and the residents do some joint planning for it in the fairly near future to deal with issues that are unique and need to be dealt with. The area lies between North Road and the back shore between the Indian Point conservation area and Division Point and is shown in blue on Map 2.

As development on Chebeague continues to take place, a number of issues in this area are becoming more apparent and pressing:

- The lots, which in many cases run all the way from North Road to the shore, are quite deep. Some are also extremely narrow. In many cases the houses have been built on the shore, leaving the rest of the lot undeveloped. Now some of the owners are interested in subdividing their lots further and are running into unresolved problems.
- Most of the roads going down to these houses are private driveways. This means that if owners wish to subdivide their lots they don't have frontage on a "public right-of-way", so that new lots are defined as "backlots" which must be 3 rather than the basic 1.5 acres. Six of the 9 driveways already serve several houses on the shore, and sometimes some in between. These driveways are already only minimally accessible to fire trucks. As roads to support additional development, they would be completely inadequate. The residents of Deer Point Road are struggling with this issue already, and it would be better to avoid such problems than to try to correct them after they have become established.
- There is already some development pressure in this area which has brought property owners to the Town office asking to create 1.5 acre lots rather than 3 acre lots. It might make particular sense to allow some of this development to occur along North Road, particularly around the School. Development there might even be allowed on 1 acre rather than 1.5 acre lots. But current land use regulations make this impossible.
- This area also contains Sunset Landing which might be developed as a Town wharf in the future. This would have a significant impact on the area that should be planned for.
- Finally, much of the area is laced with paper streets left over from failed subdivisions in the early 20th century. Some or all of these could be claimed by the Town and used for

roads or open space. The Planning Committee discussed the idea of an open space corridor through this area, but any idea like this must come from the residents.

The deadline for the Town to review and decide on which paper streets to retain is September 2017. Since the existence of the paper streets in this area presents a possible opportunity for the Town and the residents, this might be an initial target-date to aim at for this planning.

3.b. HISTORICAL AND ARCHAEOLOGICAL RESOURCES

Historic patterns of white settlement are very evident on Great Chebeague, while the evidence of Native American settlement is gradually being washed away by the waters of Casco Bay. The preservation of the 19th century pattern of distinct residential hamlets or neighborhoods, separated by open space is a primary goal of this plan.

The appearance of the current development on Great Chebeague, both for year-round and summer houses, is still set by the architectural styles of the 19th and early 20th centuries. The many buildings surviving from this time have been used and reused for houses and businesses. By now there seems to be a general, if largely unarticulated, commitment to preserve this historic character. However, the changes wrought by the development of the past 20 years and its continuation into the future may challenge this uninstitutionalized consensus.

Recommendations

Goal: GREATER AWARENESS OF CHEBEAGUE'S HISTORY AND THE NEED TO PROTECT ITS HISTORIC AND ARCHAEOLOGICAL RESOURCES

Recommendation: The Town and the Historical Society are encouraged to create a standing Town committee on Historic Preservation that would undertake to work with residents and property owners to provide increased protection to historic and archaeological resources.

Recommendation: The Committee could survey current conditions of Native American sites and educate abutters about the possibility of additional remains of settlement that may be located in the adjacent upland.

Recommendation: The Committee could research and explore the possibility and potential ramifications of a historic district.

Recommendation: The Town and the Historical Society should continue to collaborate on Town projects that depend on historical research.

Discussion

Historical Development Patterns

In the 19th century, settlements on Chebeague were often based on kinship, with successive generations of children building on their parents' land. As a result, many older island homes are clustered in some of the neighborhoods described in the Land Use Inventory. Much of the rest of the island was farmed. Fishermen and mariners, however, had less need for extensive farmland, and areas such as the East End, Coleman Cove and the West End developed into denser settlements.

Then during the late 19th and early 20th centuries, summer vacationers began coming to the island, bringing a development boom with them. Nearly 200 summer cottages were built between 1884 and 1930. Individual cottages were built in nearly every neighborhood on the island. Farms became subdivisions of summer cottages. Many of these subdivisions were

clustered near the shore, creating summer enclaves such as the Massachusetts Colony and Cottage Road. Some, such as Sunset Landing hardly developed at all, and have now disappeared except for their paper streets in the Town records. Others, such as the Webber and Soule subdivisions, which created a summer neighborhood on the south side of the East End, have remained relatively stable for many years. This boom lasted through the 1920s.

Meanwhile some old farmhouses and many old barns became cellar holes full of the rambling roses and day lilies that had once grown in their gardens. What once were open fields, shown in the many photographs of the period, grew up into brush and then woods.

When the Great Depression hit, development on Chebeague largely stopped. Some residents who had moved away to take advantage of economic opportunities on the mainland, moved back.

There was also little civilian development during World War II, though military barracks were built at the far East End, at on Deer Point and on School House Road for the troops who maintained Portland's coastal defenses. These consisted of an anti-submarine net that was strung between the islands of Casco Bay closest to the shore to prevent submarines from entering the deep-water anchorage for warships between Portland and Cousins Island. Nets on Chebeague extended from Bar Point along the Great Bar to Littlejohn Island and from Deer Point to Crow Island.

The total number of houses built between 1932 and 1945 was only 18.

After the War, despite the post-war boom in the rest of the country, Chebeague following the trend of Maine's coastal towns and islands, experienced a significant out-migration. Again, there was little construction – about one house per year from 1945 to 1970.

The result of this historical pattern was that when building began to pick up again in the 1980s, only about 13 percent of the housing stock, summer and year-round, had been built since 1932.

Residential Architectural Character

Chebeague's history is still very evident in the present buildings and landscape. Stone walls weave back and forth through the island's second and third growth woods, showing evidence of the island's agricultural heritage. Hamlets of Greek Revival and Victorian houses, and shingle-style summer colonies are still largely intact. The sizes of lots and placement of houses relative to the road are characteristic of their time and purpose. Sadly, however, the evidence of Native American settlement, large coastal shell middens, is gradually being washed away by the waters of Casco Bay.

Because of the pattern of boom and bust housing development, the dominant architectural style of buildings built as year-round houses on Chebeague, even now after 30 years of steady new construction, is the Greek Revival style of the mid to late 19th century. The middle part of the 19th century was Chebeague's first major boom period. Many of Chebeague's residents made money carrying granite from local and down-east quarries to buildings sites from Eastport to St. Augustine Florida. They also built wharves, breakwaters and lighthouses. With the money they

made at these activities, the stone sloopers commissioned Greek Revival houses. Of these, 26 remain.

As the rest of the country moved on into Victorian house styles such as gothic and mansard, Chebeaguers simply adapted their basic Greek Revival style to a Italianate version. Sometimes the roof pitch was steeper, often there were more gables as well as bay windows. Jigsaw trim was added to new-style porches and stoops. Of these houses, built between about 1870 and even as late as 1910, 37 have survived. This means that buildings with Greek Revival elements make up fully 30 percent of all the houses built on Great Chebeague before 1950.

An additional 20 houses remain from the period before 1850. A few go back to the early Federal period before 1800. The rest date from 1800 to 1845. These are houses not unlike their Greek Revival successors in form and scale.

The last two decades of the 19th century brought the new building boom that came with the arrival of the summer visitors. Here the styles often differed from the Greek Revival. Initially, year-round residents took in summer boarders, and some built larger, often two story houses in the Queen Anne, stick and four-square styles.

By 1900, however, many summer visitors wanted to stay in houses of their own, producing a steady business in the construction of summer cottages. Most were “vernacular” cottages or “bungalows”. But there are several good examples of shingle-style architecture, including one built by architect Antoine Dorticos for himself.

Adaptive reuse has been the norm for both year-round and summer houses. Some have switched from year-round use to summer and vice versa. Some very old houses have become a section of a house made larger by an addition in a later style and many later houses have added els. Modernization in the form of electricity, running water, bathrooms, heating systems and modern kitchens have often changed the interiors significantly.

Historic Resources Other than Houses

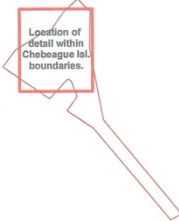
The houses are what many people think of when they think of historical resources on Chebeague, in part because many remain. But there are other physical remnants of Chebeague’s history, though many of them have been allowed to decay or disappear. Of the historic items listed in the Maine Historic Preservation Commission’s Data Inventory for Chebeague are two wrecks from 1880 and 1870 and the military defenses at the East End.

Long before whites came to Chebeague, the Abenaki Indians came to live on the islands in the summer because of their rich marine resources. Some Indians still came to camp on Great Chebeague in the summer as late as 1950. The primary remaining evidence of their occupation is large shell mounds along the shore (Map 1) of most of the Town’s islands. The shell middens have been surveyed by the Maine Historic Preservation Commission , but only some sites on Bates Island and Little Chebeague have been excavated by archaeologists. Fifty two sites were surveyed, 20 of which were eroded or damaged so badly that they were judged to be no longer significant. The others may be significant. Those that remain, however, face a significant threat. As bluffs along the shore, they are being washed away by the sea which is gradually rising.

Areas Sensitive for Prehistoric Archaeology* in
 Chebeague Island
 information provided by
 Maine Historic Preservation Commission
 February 2008

 Areas sensitive for prehistoric archaeology

*dated material subject to future revision
 map 1/1



Upland sites have been even more threatened by farming and the construction of houses, septic systems and roads.

The non-residential structures of historic interest, date primarily from the 19th and 20th centuries. The disappearance of many old commercial and public buildings and land uses attests not only to changes in public organizations and business practices as well as the ravages of fire and time, but also to common attitudes that accepted such change as natural. Most of the island's barns have suffered the same fate.

Remaining structures include:

- Public buildings including four schools, all but one in non-school uses, one active church and two others that have been reused as houses, and a public meeting hall.
- One of the five large summer hotels that flourished on Great and Little Chebeague at the turn of the 20th century. Smaller hotels and boarding houses are used as private houses.
- One small cobbler shop of the many small stores and shops that the island had before 1950.
- An ammunition magazine built by the military during World War II and now located in the garden of an East End House.
- Three of the 14 wharves that have served the island over the years.
- A couple of fish houses on the shore represent the infrastructure that supported past fishing practices.
- A World War I memorial monument.
- A number of barns.

Now, however, the memory of the island's commercial, religious and social activities and their buildings is being revived by the research of the Chebeague Island Historical Society. The Museum of Chebeague History has mounted exhibits on Island Life and Occupations in the 1870's, Entrepreneurship among West End fishers, Religion, Life on the Island during World War II, and Tourism. It also has frequent lectures on Chebeague history and publishes a newsletter, *The Sloop's Log*.

Institutions of Historic Preservation

Town Programs

Neither the Town of Cumberland before 2007, nor the Town of Chebeague Island since adopted any programs, ordinances or committees to protect historical and archaeological resources. Site Plan applications must show the location of any historic or archaeological resources, and a later provision requires that development "must include appropriate measures for protecting these resources." The Subdivision Ordinance includes a section on "Preservation of Natural and Historic Features".

There are no historic districts, and no buildings have been placed on the National Register of Historic Places. Chebeaguers do not know whether the island has historic resources of regional or national significance since the current inventory of historic properties does not contain the level of detail needed to determine this, though much information of this nature does exist.

The Chebeague Historical Society

The Chebeague Island Historical Society and its Museum of Chebeague History are active in documenting and preserving Chebeague's history, and providing public education about it. The Society was founded in 1984 by a small group of interested year-round residents. The Museum of Chebeague History is housed in the Society's most expansive holding, the District 9 schoolhouse, built in 1871. The other collections include thousands of examples of island material culture, including original papers from the island's recent secession from Cumberland, an extensive collection of island photographs, postcards, organizational records, ephemera, as well as artifacts relating to island.

The Society has many members, and the renovation of the Museum building and the operation of the Society has always been funded from dues, donations and grants, with no support provided by the Town.

Future Work on Preserving Historic and Archaeological Resources

This Plan recommends that the Town and the Historical Society work together to establish a joint Historic Preservation Committee. The Committee could:

- Research and explore the possibility and potential ramifications of a historic district.
- Develop an informational manual (or a series) on the particular characteristics of local styles of architecture. This could help owners of old houses who have little knowledge of historic preservation decide what kind of renovations would fit the character of their houses.
- Develop school programs and walking tours to increase awareness of architectural styles and the historical periods they were shaped by.
- Map stone walls and cellar holes.
- Develop a program of creating signs for individual houses that would build on the information collected for the House Tours.
- It could work with homeowners to
 - get their homes listed on the National Register of Historic Places, or
 - protect their properties from future change through historic preservation easements,
 - or qualify for State programs to protect historic resources

As indicated earlier, The Maine Historic Preservation Commission suggests that further archaeological survey, inventory work and analysis be done on the 32 Indian shell midden sites that may be significant, and “ agricultural, residential and industrial sites relating to the earliest Euro-American settlement of the islands beginning in the 17th century.”

3.c. WHARVES, WATERFRONT AND THE OUTER ISLANDS

The waterfront is the interface between the land and the Town's waters. Much, but not all of the Town's shore is "working waterfront" – used by people for economic activities. Indeed, access to the shore is critical to the Town's economy. Fishermen must get to their boats. Residents must get to ferries to the mainland for business and pleasure. Visitors, a significant element of the economy, expect to be able to get to the shore to sail, swim, fish or just enjoy the view or the beach. So do residents.

The Town-owned Stone Wharf is inadequate for all the uses it serves. The major recommendation of this section is for the Town to do a thorough study of the feasibility of developing Sunset Landing for at least some of these uses. The process of doing this study, making the decision about whether to implement a Sunset Landing plan and then carrying it out is likely to take between 10 and 20 years. In the meantime, the current Stone Wharf and the State Pier at Chandler's Cove need to continue to serve the island's needs.

Maintaining and increasing access to the shore is also an important Town issue.

In addition, there are shore lands, particularly on the outer islands that are important natural habitats for birds and seals. These areas are not part of the working waterfront. Indeed, Stockman, Bangs, Little Chebeague, Jewell, Little Jewell, Rogues, Sand, Crow West Brown Cow, Upper Green and the shoreline areas of Stave, Ministerial, Bates and Hope Islands have been designated as Resource Protection areas as part of the Shoreland Zone. The intent of this Plan is to keep them this way.

Goals and Recommendations

The Goal is: ADEQUATE MARINE FACILITIES TO SERVE THE TOWN'S FUTURE POPULATION AND ECONOMY

Recommendation: The Town should do a feasibility and cost/benefit study of the use of Sunset Landing for future marine uses. Such a study should also consider the land use impacts that this change could produce. If a decision is made to make any of these changes, plans need to be made about how the Sunset parcel and surrounding areas will be developed.

Recommendation: If a decision is ultimately made to build a second wharf on the island, one of the wharves should be made available to fishermen, and equipped with facilities and equipment (such as a hoist) for their use.

Recommendation: If the Town decides not to develop Sunset Landing as a marine facility over the next ten to twenty years, it must still retain the land since it is the only remaining large site with deep water access on the island.

The Goal is: MAXIMUM PUBLIC ACCESS TO THE SHORE AND THE WATER FOR RESIDENTS OF AND VISITORS TO THE TOWN.

Recommendation: The Open Space Committee should develop a Comprehensive Public Access Plan which would continue to inventory, research and prioritize trails, coastal access points and lands that are thought to be public or have been used by the public. Such research can be funded through the Town budget and grants; and the Town can and can hire experienced researchers, surveyors and lawyers. Points of access that do not already belong to the Town can be acquired by purchase or donation of easements.

The Goal is: KEEPING THE UNOCCUPIED OUTER ISLANDS AS LITTLE DEVELOPED AS POSSIBLE.

Recommendation: Explore the need for and feasibility of wildlife management on outer islands that have introduced species.

Recommendation: Work with the Land Trust, the Island Trail Association, the State and other landowners on issues of general management of the islands and regulation of such uses as camping areas and fires.

Goal: MONITOR AND REVIEW DEVELOPMENT PLANS FOR THE OCCUPIED OUTER ISLANDS.

Recommendation: The Town should develop a more systematic process for reviewing development proposals from the outer islands. This could include requiring a land use plan for the whole island if significant new development is proposed.

Discussion

Where Water and Land Meet: Coastal Land Use

Five of the Town's larger outer islands and all of the small islands and rocks are used primarily by birds and animals. Their "land use" is Resource Protection. So is most of the shore edge of the other outer islands.

The use of most of Town's developed shoreland, including that of the four occupied outer islands is residential. Of the approximately 209 lots along the shore of Great Chebeague, 173 or 83 percent are occupied by houses. Of these houses 125 or 72 percent belong to summer residents. The only "commercial" uses on the shore are the Golf Course, the Boat Yard, and the two public wharves. Thirty lots are still vacant. But several of these, as well as several that have houses on them are protected by conservation easements (Rose Point, Deer Point, the Higgins Farm field and Indian Point).

Since a fisherman's "business" is based at his house, this residential pattern did not and does not now preclude maritime uses. However, as property values along the shore have risen in the past 20 years, some fishermen have moved away from the shore to other parts of the island or off the island altogether. Coleman Cove is an example. It was still enough of a fishing community in 1990 to have been zoned completely for commercial fisheries and maritime activities. Now it includes a stretch of land in conservation easement and only one fishing family among its home

owners. On the other hand, the cove is still used for mooring four fishing boats and the Town road down to the beach is still actively used by fishermen to put off and take in their gear.

The single business-only building on the water is the Boatyard. It may be Chebeague's only truly water dependent commercial marine use other than the two public wharves. Other uses that might be considered water dependent such as boat building, welding repairs, storage of fishing gear and buying of lobsters and selling of bait are not done from land on the shore. The former depend on water access from public wharves or beaches accessible by truck. The latter are conducted from rafts or smacks on the water itself.

All of the shore is in the Shoreland Zone, a mandatory overlay zone established by State Law that includes all land within 250 feet of the ocean. Some of its purposes are to control water pollution by conserving shore cover, to protect fish spawning areas, aquatic life, and bird and wildlife habitat, to conserve natural beauty, protect access to the water and protect archaeological and historical resources. It basically reflects the underlying Town zoning but establishes uniform, statewide, typically pretty strict processes for review, and standards for development that is allowed.

It is also intended to protect commercial fishing and the maritime industry and allows for the establishment of Commercial Fisheries/Maritime Activities Overlay Districts in which the regulations strongly favor "functionally water-dependent uses" which require access to the ocean such as commercial and recreational boating and fishing facilities, boat building facilities and wharves. At the time the Shoreland Zoning law was implemented, eight areas of the Great Chebeague shore were designated as CFMA zones: Chandler's Cove Pier, Bennett Cove, Coleman Cove, the Boat Yard, Central Landing, Fenderson Landing, The Stone Wharf and Sunset Landing.

The current coastal land use pattern works fairly well as long as adequate access to the shore from wharves, beaches and other areas is maintained, and there are no major changes in the nature of the Town's fishing activities on the island. If the fishermen decided to build facilities on Chebeague for fish processing, large-scale storage of lobsters or some other venture that would be somewhat like the earlier Fenderson Clam Factory with a wharf and sizeable buildings, finding space on the water would be difficult. However the current Calendar Islands lobster marketing business seems to be using space in Portland so this does not seem to be an issue at this point.

The Working Waterfront

Even though land use along the shore is predominantly residential and open space, the Town's working waterfront is spread all around all the islands. The inhabited outer islands have landing places. Indeed, Hope Island has fairly elaborate wharf and boat storage shed. On Great Chebeague many areas around the coast are used as working waterfront including the CFMA zones described above. The criteria for inclusion focused on winds, slope of the land, depth of water and availability of support facilities. These areas have zoning regulations that allow intensive commercial/marine land uses close to the water, and prohibit the construction of new residential uses that would be incompatible with these marine uses. They are used by fishermen to on and off-load traps and equipment, moor boats and anchor lobster floats. At a minimum

these areas might be considered to be the Town of Chebeague Island's "harbors" as distinct from its "waters". And there are other areas, like Johnson Cove and the Cricks, that are not defined as CFMA but are used for storing floats and traps in the winter as well as for clamming.

There are currently four major points of concentration of working waterfront uses that include not only fishing activities but ferries, barging and recreational boating as well – the Stone Wharf, Chandler's Cove Wharf, the Boat Yard and the barging area at Bennett's Cove. They serve ferries, fishermen, recreational boaters, small cruise boats, barges, the Chebeague Rescue and emergency CMP and telephone company boats. Three of these are public: the Stone Wharf belongs to the Town of Chebeague Island, the Chandler's Cove Pier belongs to the State and the barging access at Bennett's Cove is a Town right of way.

Adequacy of Marine Terminals on Great Chebeague: Wharf and Parking Capacity

The wharves on Chebeague serve a number of distinct constituencies. Fishermen, ferry riders, recreational boaters, boat commuters, golfers and swimmers. Since cars are the most common way that people get around, any wharf facility that serves a substantial constituency needs parking.

Amount of Use and Parking

Many different kinds of users, and only two public wharves inevitably, creates congestion and conflicts of uses which are described in more detail in the Inventory of the Marine Economy.

The Chandler's Cove Wharf serves the Casco Bay Line's four to five boats per day, seven fishermen who moor boats there, an increase from 3 in 2000, some of the 38 pleasure boats moored in the cove and the CMP and telephone company repair crews.

The Stone Wharf serves as the terminus for CTC which is the island's primary ferry service. It has eight to ten runs each day as well as additional runs for the Rescue. In the summer the wharf has mooring space at floats for 37 boats under 17 feet long. These are used by Chebeaguers and by some workmen who come out from the mainland. Also, in the past, a summer a retail lobster pound has been moored to one of the floats. In addition 17 fishing boats and 64 pleasure boats are moored in the anchorage. At the south end of the wharf there is a concrete ramp that is used both for launching boats and for barging to and from the island. Next to the barging ramp is the 7th Tee of the Golf Course.

Today, most of the users of the wharves drive to them in cars and most expect to be able to park their car at the wharf for free. The problems of parking and congestion that this has created are much more evident at the Stone Wharf than at the State Pier at Chandler's Cove.

When the Chandler's Cove Wharf was rebuilt by the State in 2000 its parking area was enlarged to 20 spaces. The ridership on the Casco Bay Lines from Chebeague has been fairly stable at about 9,000 passengers per year over the past ten years. The number of lobster boats using the wharf has increased from 3 to 7. At this point the capacity of the parking lot seems to be sufficient, but may not remain so indefinitely.

Parking at the Stone Wharf, however, is severely restricted by being hemmed in by a historic house and the Golf Course. Past efforts to acquire land from the Golf Club or to create

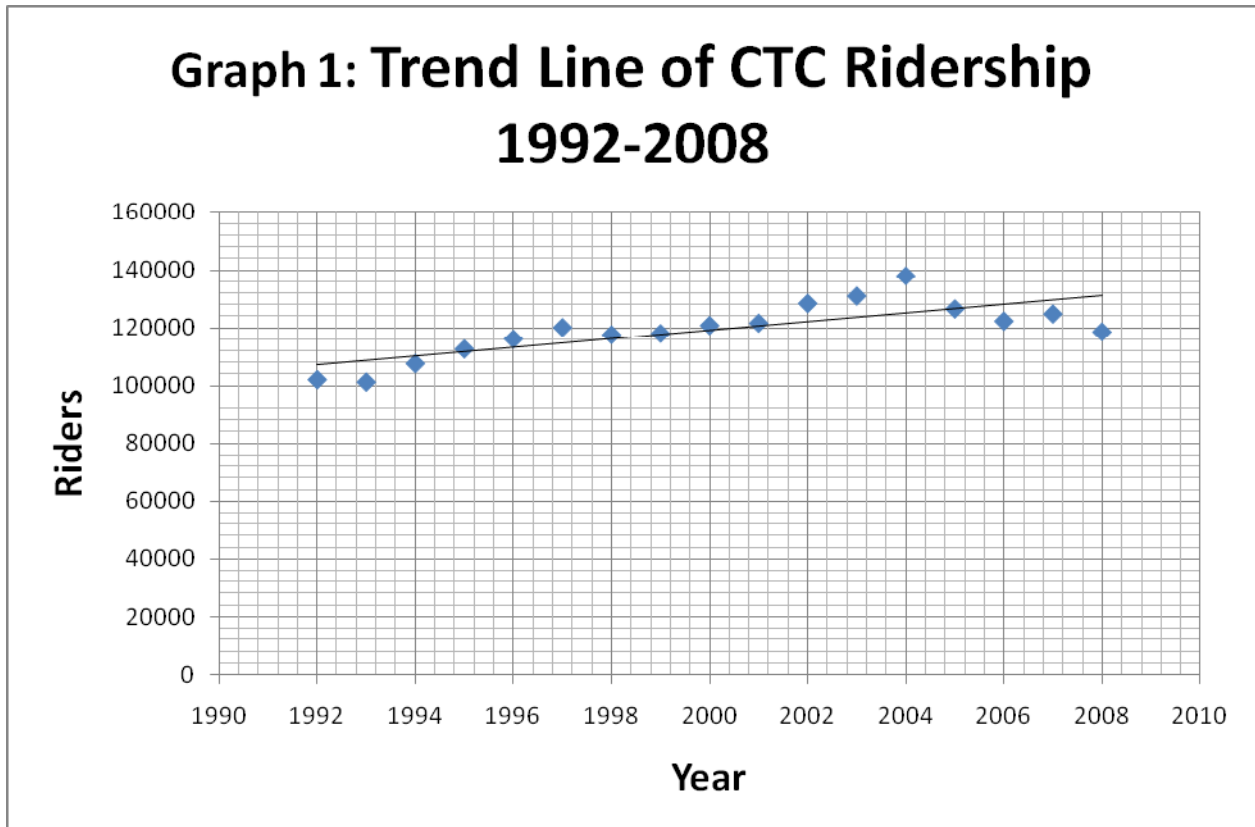
additional land by filling have largely been unsuccessful. The wharf currently has 80 perpendicular spaces plus space for 25 to 30 cars parallel-parked along Wharf Road. During June and November when fishermen are using the wharf to load and bring in their traps, the number of spaces is reduced by seven.

We have no data on how many people use the Stone Wharf and the Chandler’s Cove pier each day. Traffic over the course of a day at the Stone wharf depends on many things that vary over the course of the year and from year to year:

- The size of the island population
- The time of year
- Whether school is in session
- Whether the island is hosting a wedding, a funeral, or it is a holiday period
- The number of uses on the wharf
- The number of lobster boats using the wharf and whether they are loading or unloading traps.
- The amount of construction occurring on the island and size of the houses

Parking is also a function of:

- The number of riders who don’t have cars (such as construction crews from the mainland and riders dropped off by family or friends.)
- The number of parking spaces
- The amount of parking ordinance enforcement.



The one measure we do have for actual traffic at the wharf over time is total CTC ridership from 1992 to 2008 (Graph 1). This, of course does not include people coming to the wharf for other uses such as going out to a private fishing or pleasure boat, buying lobsters or playing from the golf tee. As the Transportation to the Mainland Inventory indicates, CTC ridership over the past 10 years seems to have somewhat mirrored the change in the number of houses being built on the island, which, in turn, reflects the general state of the national economy. Data from 17 years indicates that although ridership goes up and down with the economy, the general trend line has been rising gradually at somewhat less than 5,000 riders per year.

This analysis, of course, does not reflect the large growth in usage every year from winter to summer. In February 2008 the average daily number of riders in was about 270. In August it was about 480. Currently the parking is adequate in the winter. But in the summer, with a maximum of 110 spaces and a gradual increase in the number of cars on the island, the spaces are filled. The number of summer users also rises and falls with economic cycles, but the cyclical economic pattern is swamped by the larger number of people looking for parking in the summer.

Beginning in the 1960s users of the Stone Wharf began meeting to urge the Town to make improvements to the deteriorating wharf. Since 1980 a series of Stone Wharf Committees, formed by the Town, have made recommendations about increasing the number of parking spaces. The parking has gradually been expanded in the property owned by the Town. The most recent increase in 2008 was from about 68 to about 79 perpendicular spaces. In the past the Golf Club has been reluctant to sell land to the Town for the expansion of the parking, even though having cars parked along Wharf Road is a problem for them. This suggests that no significant expansion of the parking or other facilities requiring space that might be needed on the wharf is possible at the wharf's present site.

In sum, the growth in the need for parking and the multiple uses at the Stone Wharf are considered by a majority of the Comprehensive Planning Committee to be one of the major challenges facing the Town in the next ten years. The data on CTC use indicate that over the next ten years there will probably be a slow, but steady increase in the demand for space for both parking and automobile access to the wharf which will tax its already-limited capacity. The Town needs to begin now to look at ways to solve this problem, since a solution may take considerable time to study, agree upon and raise money for.

Wharf Capacity and Maintenance

The Chandler's Cove Pier belongs to the State of Maine. It was last replaced and enlarged in 2000. It is specifically designed to serve the Casco Bay Line boats which come up not to a float that goes up and down with the tide, but to a ramp that allows passengers and freight to come ashore at all tides. No other boats use this ramp which is the central feature of the pier, so the capacity is quite adequate for CBL.

The Town of Chebeague Island has a series of floats and a ramp off the north side of the pier. This is used by fishermen, pleasure boaters and the utility companies. There is a 15 minute time

limit for users in part to make sure that the CMP and telephone company boats can always dock in an emergency.

The Stone Wharf was built in the 19th century. It has served well for 150 years but it needs regular maintenance to keep it structurally intact and the road on top of it useable. Most of the structure is basically a large box of dressed granite that was then filled with fill. The action of the tide surging through it and of winter frost-heave both tend to wash the filling out between the enclosing stones, leading to sinking of the pavement on top as its support is lost. The south side, at the barge ramp and golf tee was built on timber cribwork which deteriorated over the years. Finally, the wharf could be built in this place in part because the surrounding water is not very deep. This means that for any large boat to use the wharf, the channel must be periodically dredged.

Since 1980 the Town Stone Wharf Committees have made recommendations on repairs that should be made to the wharf. In 1990 in response to the problem of sinkholes in the pavement, the fill was removed from a trench around the northern-most part of the wharf so that the stone “container” could be lined with filter fabric to contain the filling. This was only moderately successful and more sinkholes appeared. Again in 2003 structural repairs were made, replacing lost stones, pumping sand and concrete between the face stones and rebuilding the structure that holds the gangplank to the wharf. Most recently repairs have been done on replacing the wooden cribbing on the south side. These various repairs do, and will, strengthen the structure, but regular maintenance is always needed.

The channel was also dredged in 1994 and 2004. The permitting for the dredging can be an arduous process, but if the dredging were done each time within ten years, the State would consider this to be “maintenance” rather than dredging, with less strenuous permitting requirements.

Boats tying up to the Stone Wharf actually tie up to floats attached to the wharf which go up and down with the substantial tides. The stone structure is not much higher than the water at high tide, and at spring tides and in storms that coincide with high tides, the wharf itself is covered with water. This will become a larger problem, especially if the current sea level rise of 1 inch/10 years is increased by global warming.

Summary of Adequacy of Wharves

The State Pier at Chandler’s Cove is only ten years old and seems to be adequate to serve the Casco Bay Lines boats. The structure also seems to function well for fishermen, recreational boaters and the utility company representatives.

The Stone Wharf has undergone a number of repairs over the past 25 years. Structural problem will probably always remain, and maintenance needs to be ongoing. Its capacity to serve its many users has also been increased by the addition of summer floats that extend its length. However, the many different users it serves make the wharf a very congested place. Past efforts have increased and rationalized the parking, providing some handicapped in addition to regular parking spaces, and making space for the fishermen who depend on the wharf to load and unload

their traps and repair their boats. The barging ramp has been repaired. Even the golf tee fits in between the parking and the barging ramp.

Even so, the number of people and cars on the wharf when the Islander comes in on a Friday afternoon in August is large, and the situation verges on chaotic. There is a marked path for pedestrians, but no established traffic pattern, so while some cars are driving down to pick up passengers and others are driving away, still others are backing out of parking spots or idling while they talk with friends walking by. This is not a picture of an “adequate” wharf.

Barging

On both ferries passengers can bring personal baggage such as suitcases and bags of groceries and bikes. CBL carries larger, items that have to be unloaded by crane, on pallets or in luggage carts. Even larger items such as island cars, moving vans full of furniture, construction supplies, gravel, and trash containers for the Transfer Station have to come to the island by barge.

In addition to its two ferry wharves, Great Chebeague also has two public barge landing areas, one at the Stone Wharf and the other at Bennett’s Cove. The former is most easily served from Yarmouth and the latter, from Portland. The former is largely, but not entirely, used by the CTC push-boat and barge. The latter is used by other private barging companies. CBL has no barge operation.

Both landings have probably seen significant increases in traffic over the past 10 to 15 years, but there are no data going back that far. In 1994 the landfill was closed, requiring all trash to be taken off the island by barge in huge containers. As was indicated above, the 1990’s and much of the first decade of the 21st century was a period of active building on the island, producing a lot of barges carrying building supplies from concrete mixers to lumber and bricks. However since 2004 this traffic has declined.

Table 1: CTC Barging

	2003	2004	2005	2006	2007	2008	Average
Total vehicles	1001	1034	864	896	946	724	910
Commercial	557 56%	624 60%	494 57%	517 64%	472 50%	339 47%	500 55%
Private	444	410	370	379	474	385	
Total trips	214	210	172	201	178	130	
Trips from Cousins Isl. ¹³	181	195	157	159	153	118	
Cousins Isl. Barge-days				79	71	60	70/150 = 47 %

¹³ CTC also barges from Yankee Marina up the Royal River in Yarmouth. This barging is not regulated by the 1989 consent decree. The difference between total trips and trips from Cousins Island is these Yankee Marina trips. In 2007 there were also 24 trips to South Harpswell.

The barging ramp at the Stone Wharf serves both the CTC barging operation and other barging companies. We have data on CTC's barging, at least in recent years. CTC's barging is strictly regulated by the 1989 consent decree that settled the Cousins Island residents' suit against CTC.

Between 50 and 60 percent of the vehicles brought over and back by the CTC barge are commercial ones that belong to people who are doing work on the island. Some, like Chebeague Sand and Gravel, are island businesses that barge regularly. Many others are mainland businesses bringing out both transportation and supplies for particular jobs. The rest of the vehicles are cars and pick-up trucks for people living or staying on the island.

As Table 1 indicates, the barging generally fluctuates with the state of the economy, down, for example between 2007 and 2008, and generally down from the recent high in 2004. This poses a problem for CTC which uses the revenues from barging to support the ferry operation.

Because the CTC barge usually comes across from the Cousins Island parking lot, the location of the ramp on the Stone Wharf is very efficient. However, the ramp contributes to the general congestion of vehicles on the wharf. Because the barges have to operate when the tides are right, activity tends to be concentrated rather than spread out in time.

Bennett Cove has been a town landing since before the Civil War. Barging at Bennett Cove provides greater flexibility than the Stone Wharf to people who want to bring material onto the island. It is convenient for commercial barges coming up from Portland. There are no court-ordered restrictions on the amount of barging, and barging can be done throughout the winter. Unlike the ramp at the Stone Wharf which is concrete, the barges at Bennett's Cove simply come up onto the beach which slopes fairly gradually and so can accommodate barges over a longer period at the high tide. Bennett Cove tends to be used by the large barges owned by private barging companies.

There is no data for the growth in barging at Bennett Cove over time, but in 2004, at the height of CTC's barging, Sanford Doughty whose windows look out on the Cove, recorded all the barge landings for a ten month period (except mid-March through May), for days when he was at home, giving a minimum estimate of the traffic that year. Barges from Lionel Plante, Reliance and some other companies barged on 100 of the 217 week days (46 percent), making 135 landings. This was about the same amount of activity as CTC's barging at the Stone Wharf. Most days saw only one trip, but on 26 days there was more than one, and even as many as 4 or 5. Sanford counted 47 dump trucks as well as concrete mixers, flat-bed and boom trucks for lumber, moving vans, cherry-pickers and tree-cutting equipment, propane trucks and trucks hauling the dumpsters for the Transfer Station.

If barging both for CTC and for the other barging companies follows the same cyclical pattern tied to the economy that may shape CTC and CBL ridership, then these figures may represent a high point. But some other factors may be encouraging the use of Bennett Cove. One is that lumber trucks have grown in size and can more easily be carried on large barges. In addition, it costs less to barge from Portland to Bennett Cove than to the Stone Wharf. This has led the Town, for example, to do most of its barging of solid waste receptacles from Bennett Cove.

This level of barging creates problems even in a relatively uncongested area. The surrounding land use is all residential and the increased use and the industrial character of the barge-landing has created considerable unhappiness in the area. The heavy traffic has been hard on the gravel road up to South Road which was substantially rebuilt by the Town of Cumberland after all the barging of road-building materials to repair the island's roads in the wake of the Patriots Day storm in 2007.

The barging also affects the beach itself. The power of the propellers holding the barge to the shore churns a large hole into the substrate, exposing a CMP power cable that comes onto the island in the same place. In addition, Bennett Cove is the only place on Chebeague that has been identified so far as suitable habitat for baby lobsters who take up residence under the rocks that are exposed.

Ideas for Solving the Problem of Congestion at the Stone Wharf

Sunset Landing

In the late 1980s the Town of Cumberland organized a committee to survey possible sites on the north side of Chebeague for a new ferry wharf. In 1990 the Town bought a 9 acre piece of land at the west end of the island on the shore facing Cousins Island. It was the site of a never-developed subdivision with a pier called Sunset Landing. The Town's intent in buying the site was to explore building a new wharf that might provide a wharf and parking for CTC and maybe even CBL, and to provide a barge landing. The Stone Wharf would then primarily be used by fishermen and recreational boaters. The circumstances that came together to produce this idea are described in the Transportation to the Mainland inventory.

No detailed studies were done of the suitability for a wharf of either the land or the underwater substrate though a rough, conceptual design for a pier, floats and a wave fence was done by Prock Marine. The plan had no facilities for barging. No conceptual site plan for the land side of a Sunset Landing proposal was ever done.

There was a lot of interest in the idea on the island but considerable disagreement over how suitable the site would be for a year-round landing. In the end, the Sunset Landing proposal was put on indefinite hold. However, the Town of Chebeague Island still owns the land and there is still some expectation that it could be used for a marine facility – a wharf and/or barging facility. On the survey for this Plan 12 percent of the respondents suggested moving the CTC to Sunset Landing.

If the citizens of Chebeague decide to move part or all of the CTC's operations to Sunset Landing, a decision will need to be made about whether to encourage other development in that area, and, if so, what kind. What kind of other development would be compatible with a barge landing and/or a ferry wharf? Housing is not very compatible with major transportation and parking uses. In 1990 Jimmy Stewart thought about a store, gas station and restaurant at Sunset. If the wharf itself required State aid to be feasible, a growth area for such commercial development might make sense.

An Island Bus Service

The idea of an island bus service is one that keeps coming up in discussions of parking at the Stone Wharf. On the survey for this Plan, 19 percent of respondents suggested having a remote parking lot on the island, and a bus to the ferry or a round-the-island shuttle bus. However, this idea has never been studied and has never been the subject of a systematic proposal by any island group because it has created sharp opposition among some island residents.

The talk has taken several forms. One idea is to have a satellite parking lot, as CTC has on the mainland, with periodic bus service to the Stone Wharf and perhaps to Chandler's Cove. Another is to have a regular bus route around the island that has stops at both wharves. The image is often of using the school bus for this service. In either of these cases, the service would only run during the summer. Ideas vary about who might continue to park at the Stone Wharf – only commuters, only year-round residents or only fishermen, for example.

Again, if Chebeague residents are interested in having an on-island bus service, it would be necessary to examine what effect its route and stops might have on the pattern of island development. If there were a single satellite parking lot, what other land uses would be compatible with it? If there were a continuous-loop bus service, would people walk or drive their cars to the bus stops?

Coastal Access

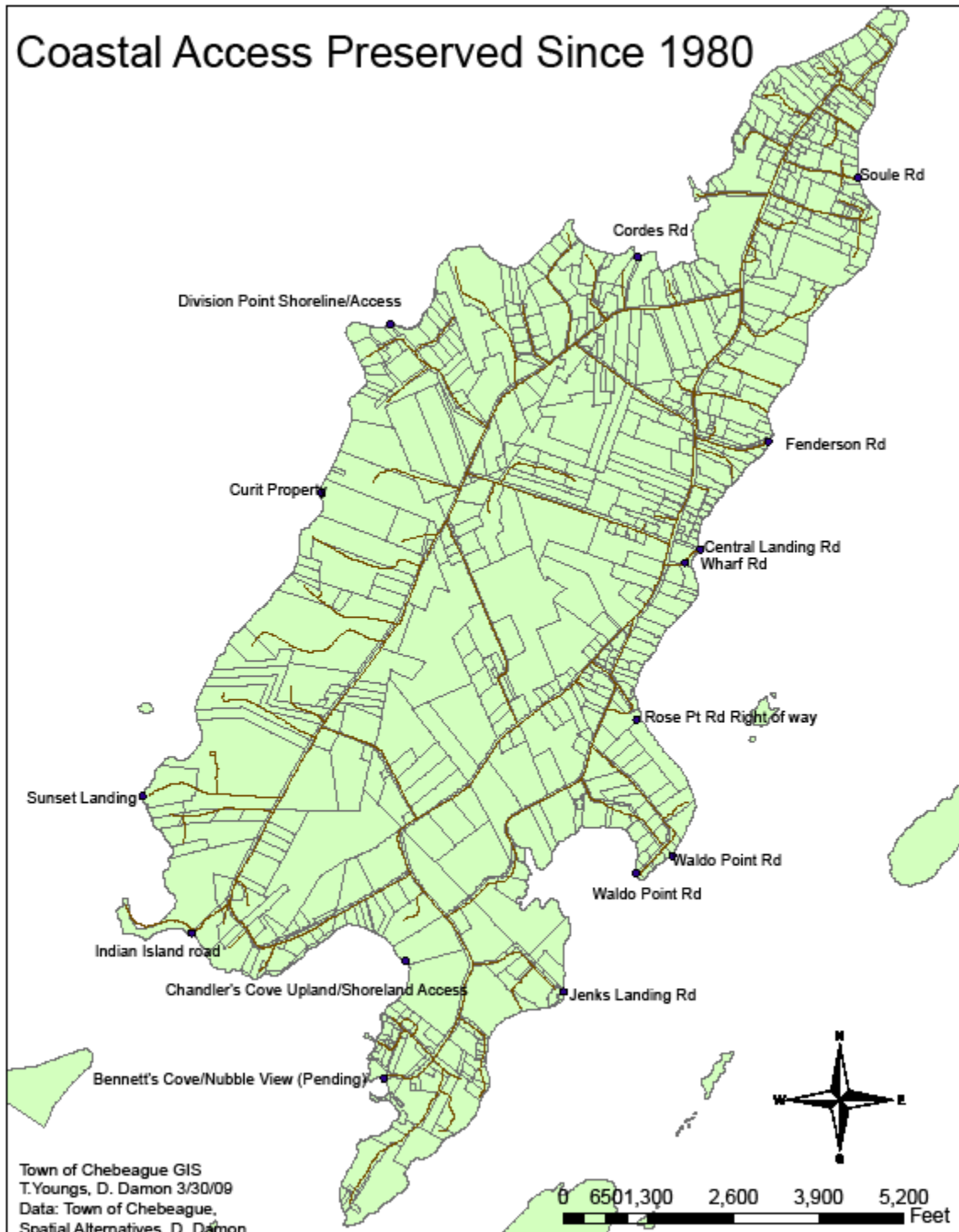
Both fishermen and vacationers need to be able to get to their moorings. Beyond that, a vacation destination surrounded by water needs public access to it. Under ordinances going back to Maine's Colonial past, there is a right to access the shore over someone else's property for the purposes of fishing, fowling and navigation. On Chebeague the Town of Cumberland stood legally behind this right of access. It has not been a significant issue yet for the Town of Chebeague Island. But this is not the primary mechanism for achieving access to the shore.

Because of Chebeague's particular history of decentralized access to boats, there are strong values that have supported easy access to the shore. Now, however, this value is under pressure, and it has become more important to define and protect public access rights to the water. There are more houses and more people, particularly along the shore. People move to the island from places where keeping others off your property is accepted as a basic right. Some have blocked existing points of access to the shore, even ones owned by the Town.

Since the 1980s, the State, and the Towns of Cumberland and Chebeague Island have adopted the strategy of researching property ownership of rights in the shore and of formalizing the legal status of access points that belong to the Town. Some of these are discussed in the 1998 *Coastal Access Study*. For example, rights of way and shore access points that had been granted to the Town in old (and not so old) subdivisions but forgotten since have been reclaimed through the research and work of Donna Damon. The Town and the Chebeague and Cumberland Land Trust have also been active in acquiring access points or easements to them from willing property owners.

Map 1 shows access points on the shore that have been legally documented as public since 1980, whether through public ownership or easement. The map does not show additional possible access points that might be documented in the future. In the Island Institute's study of coastal

Map 1:



access in all coastal communities in Maine, *Mapping Maine's Working Waterfront*, Chebeague ranked high in the number of public access points.

All of the smaller outer islands are completely within the shoreland zone since they are less than 500 feet wide. Hope, Bangs and Stave are wide enough to have areas outside the shoreland. Stockman belongs to the Chebeague and Cumberland Trust, while Little Chebeague, Crow and Jewell Islands belong to the State of Maine. All the other uninhabited islands – Bangs, Stockman, Jewell and the small islands -- are zoned Resource Protection. The immediate shoreline areas of the inhabited islands – Hope, Stave, Ministerial, and Bates -- are also mostly designated RP.

The Outer Islands

State maps show Sand, Bangs, Stockman, Ministerial and Upper Green Islands as seabird nesting islands. Ernie Burgess' map adds Jewell, Bates, Stave, Rogues, Crow and Goose Nest Rocks as nesting areas.

All the islands are stopping places for a variety of migrating birds.

Seals are protected under the 1972 Federal Marine Mammal Protection Act. Goose Nest Rocks, Mink Rocks, and rocks off of Stave and Sand Islands are seal haul-out areas.

However, the outer islands are not necessarily pristine natural habitats. Several have introduced raccoons that do considerable damage to nesting birds.

Hope Island is a special case among the outer islands. It belongs to a single family who have been developing an extensive farm/estate with houses, barns, a chapel, a large boathouse, and a gravel pit for road-building and rip-rap. These construction projects have been approved individually by the Code Enforcement Officer, though the gravel extraction should have been reviewed by the Planning Board. The Town has never asked for or received an overall plan for the development of the island, nor has consideration been given to what, if any, services the Town might provide in the future.

The three other occupied islands, Stave, Bates and Ministerial, have not had active development in recent years. But it is possible that this might occur in the future. It does not seem appropriate for the Town to develop land use plans for any of the privately owned islands, though it does regulate them through zoning, including Shoreland Zoning, subdivision control and building codes.

3.d. MANAGEMENT OF THE TOWN'S WATERS

The map of the entire Town of Chebeague Island emphasizes the scale of the town's waters which extend, in a panhandle-shape, out to the three mile limit. Traditionally comprehensive plans have dealt largely with a town's land and public facilities. But in a Town that is 82 percent water, and whose economy depends significantly on those waters, it seems unreasonable to focus only on the land. Indeed, the economy and social life of the town have been defined by the active use of those waters for fishing, tourism and recreational use and for the transport of people and freight. Like all other "unconnected islands" all the islands of the Town depend heavily on boats.

The idea that a Comprehensive Plan for an island community should involve planning for the use of the Town's waters as well as the uses of its land raises two different, but related, planning issues. One is the question of whether and how the Town could realistically do this. Some communities have harbor plans, but the idea of developing a plan for the use of a larger section of the ocean is just beginning to be adopted in the U.S.¹⁴ The other issue is how can the Town develop and adopt policies to encourage good stewardship of its waters. Because the answers to these two questions are so uncertain, this is the most tentative chapter in this plan.

Goals and Recommendations

The Goal is: SAFE AND FAIR USE OF THE TOWN WATERS BY FISHERMEN, RECREATORS AND PROVIDERS OF TRANSPORTATION AND OTHER KINDS OF SERVICES.

Recommendation: The Town should reconstitute the Coastal Waters Commission as a broadly based group of residents who are concerned with the general welfare of the waters of Chebeague.

Recommendation: The Town should finalize the process begun by decision of the 2010 Annual Town Meeting, of developing a plan for the Town's waters by developing a plan for near-shore mooring areas and Coast Guard designated anchorages that balances the needs of fishermen, recreational boaters, the Boat Yard and other interested parties. Such a process must not only consider the needs of these various groups but must involve them directly.

Recommendation: The Town should identify and mark the Town boundary at the Great Bar, Little Chebeague, Jewell and Hope Islands.

Recommendation: The Town should pay particular attention in the mooring/harbors plan to protecting eel-grass beds.

Recommendation: The Town should explore whether to include additional areas of the Town's shoreline in the Shoreland Zoning Resource Protection Zone.

¹⁴ Fara Courtney and Jack Wiggin. *Ocean Zoning for the Gulf of Maine: A Background Paper*. Gulf of Maine Council on the Marine Environment and NOAA MPA Center, January 2003.

Recommendation: The Town and Harbormaster should provide educational materials on “boating safety, respect and courtesy” to all boaters to make them more aware of possible conflicts among users of the waters.

Recommendation: The Shellfish Warden and the Shellfish Commission should continue to actively manage clam flats to maintain and increase productivity.

The Goal is: AN INCREASED ROLE FOR THE TOWN OF CHEBEAGUE ISLAND IN STATE DECISION-MAKING ON THE USE OF TOWN WATERS.

Recommendation: The Town should consider whether to develop a plan for the use of its waters and bottom. If such a plan is undertaken, its development must also involve the users of the Town’s waters.

Recommendation: The island’s lobstermen are urged to make sure that the TOCI continues to be represented on the Zone F Lobster Council and encourage representatives to work actively for a sustainable lobster harvest and for maintenance of brood stock and protection of juvenile lobsters.

Discussion

Ownership of Town Waters

The Town does not own its waters, but it could position itself to better respond to initiatives by other governments and private organizations to use the Town’s waters. The power to plan and regulate at the local level is granted by the State, and in the case of ocean waters, the powers granted are not only quite limited but are also changing as what has been a commons, open to all, is not only more intensively used but is also being privatized. The land to the low tide line is owned by people on the land. Below the low tide line, the waters of the Town of Chebeague Island are owned by the State of Maine out to the three-mile limit. This means that the Town has little control over more than three quarters of its area.

Ostensibly these waters are a “commons” available for use by anyone for work or recreation, though such use is often regulated. In near-shore Maine, the bottom has been somewhat managed and apportioned, without formally privatizing the commons, by lobstercatchers who have been able to limit use by informal methods. Lobstercatchers from a local area have territories and lobstering rules such as v-notching egg-bearing females and prohibition on taking shorts and large lobsters by informal pressure. This, even now in some parts of Maine, is a system of “mutual coercion, mutually enforced” , though this system has been formalized in the State’s regulations and Lobster Zone Councils.

However, the idea of the water as a commons is gradually disappearing. The State leases the bottom to individuals and companies for things like pipelines and cables, and in recent years for aquaculture. Since the State is encouraging aquaculture, this has created a situation where the bottom is gradually being privatized as the common farming lands of Britain were in 18th century.

This basic conflict is quite real in the Town of Chebeague Island and makes the Town an unwelcoming place for aquaculture or any other use of the bottom. Lobstering is almost the only fishery left, and there is intense competition for the bottom. None of the fishermen from Chebeague engage in aquaculture. There has been one mussel farm in TOCI waters, but the island fishermen fought it and its expansion. There has recently been some exploration of small-scale leases for growing oysters in cages, but this, too, involves bottom leases and is suspect.

On a completely different scale, in 2004 a proposal was made by Trans-Canada Pipelines to build a liquefied natural gas terminal, initially on Harpswell and then on Hope Island. Such a terminal would have had a significant impact on fishing in the area through loss of bottom, damage to traps and interruptions to fishing when tankers were in the area. In addition, an underwater pipeline across Town bottom would have been necessary to convey the natural gas to the mainland. Chebeaguers, working with people from other islands and the mainland, mobilized against this proposal and it was retracted.

Now there is considerable interest at the State level in off-shore wind turbines as a source of alternative energy. Indeed, as the energy element of this plan indicates, Chebeague itself has explored this possibility. But State action seems more likely and sooner. Because the transmission lines of the Cousins Island Power Plant are so close to Chebeague, and the Town extends out to the three mile line, it may be possible that the State will consider such a development in or close to the Town. Again, there would have to be a subsurface transmission line to get the power from the turbines to the mainland. The State has said that as the planning for these wind turbines goes forward, towns that will be impacted will be a part of the planning process, but the details are not clear.

This struggle over the use of the Town's waters and bottom is one in which the Town's powers are much less than the State's. The Town needs to be proactive in thinking about how it wants its waters used. This involves planning within the powers to regulate harbors given to Towns by the State. But, if the Town chooses, it could also include broader scale planning for all of the Town's waters.

Local Regulation of Town Waters

While the Town's waters are substantially governed by federal and state governments, Towns do have some role to play in their management. The Maine Coastal Management Policies Act lays out the State's concerns in relation to ports and harbors.

Maine's Ports and harbors are a limited and irreplaceable State resource uniquely capable of supporting fishing, waterborne transportation, water-based recreation, and other uses dependent on a shoreside location. Less than 10 percent of Maine's 3,500 miles of coastal shorelines is physically suitable to function as a port or harbor area. . . .

Government agencies have a responsibility to assure that new or expanded activities in these areas will be compatible with, and will not degrade their current and future use as a port and harbor area.

Title 38 of Maine's Statutes provides the legal basis for local governments to manage local waters, particularly harbors and other near-shore areas. It enables them to appoint harbormasters

(required in all coastal towns if requested by 10 or more voters), to form Coastal Waters or Harbor Commissions to adopt policies related to the Town's waters, and to enforce local, state and federal laws related to the use of the waters.

The Town of Chebeague Island's Coastal Waters Ordinance, developed out of Cumberland's ordinances during the Transition, is primarily regulatory. It brings together the regulations for the use of the Stone Wharf, the approval process for new wharves, the mooring regulations, the rules for the operation of vessels in Town waters and the shellfish conservation regulations. So far the Harbormaster has focused on establishing these regulatory functions.

The Town has a Coastal Waters Commission made up of five volunteers. Their policy role is to "study and evaluate public usage of and access to the Coastal Waters of the Town" and "to plan for the future use of those waters"¹⁵. They work with the Selectmen and supervise the Harbormaster's enforcement of the Town's rules and regulations. To date, the Commission has not been effective in these tasks, has lost membership and ceased to meet. Since it is a central committee for the functioning of the Town, the Selectmen need to reconstitute it so that it can work effectively.

The TOCI Harbormaster's duties involve allocating and regulating moorings, defining anchorage areas and the transient channel for the Stone Wharf, managing the floats, docks, ramps and landings owned by the Town, patrolling the harbor to ensure compliance with State boating and marine resources laws and providing assistance in case of accidents or maritime distress.

As increasing numbers of working and pleasure boats, ranging from jet-skis through lobster boats and sail boats of all sizes, to large cabin cruisers, all try to use the Town's waters, possible conflicts multiply. Boats become entangled in lobstering gear or recreational boaters, and even fishermen hauling their traps may be endangered by the wake of a large, high-speed motor boat. These conflicts are usually unintentional, but they can produce anger, and sometimes safety risks. Managing these conflicts falls to the Coastal Waters Commission and the Harbormaster.

Moorings

The Town has about 400 registered boats, not including documented vessels at one end of the spectrum and small sailboats and punts that do not have to be registered at the other. Boats are used for fishing, for transportation of goods to the mainland or other islands, for passenger transportation and for pleasure. The simplest form of access to a boat in the water is to have a mooring that can be reached by punt from a beach or other landing place. This is the primary way that Chebeaguers get to their boats. Overall, as Table 1 and Map 1 show, the Town has more than 350 moorings – probably closer to the total number of registered boats. They are located all around the island. Forty four are for commercial vessels, about five are for fishing floats of various kinds, while the majority are for recreational boats.

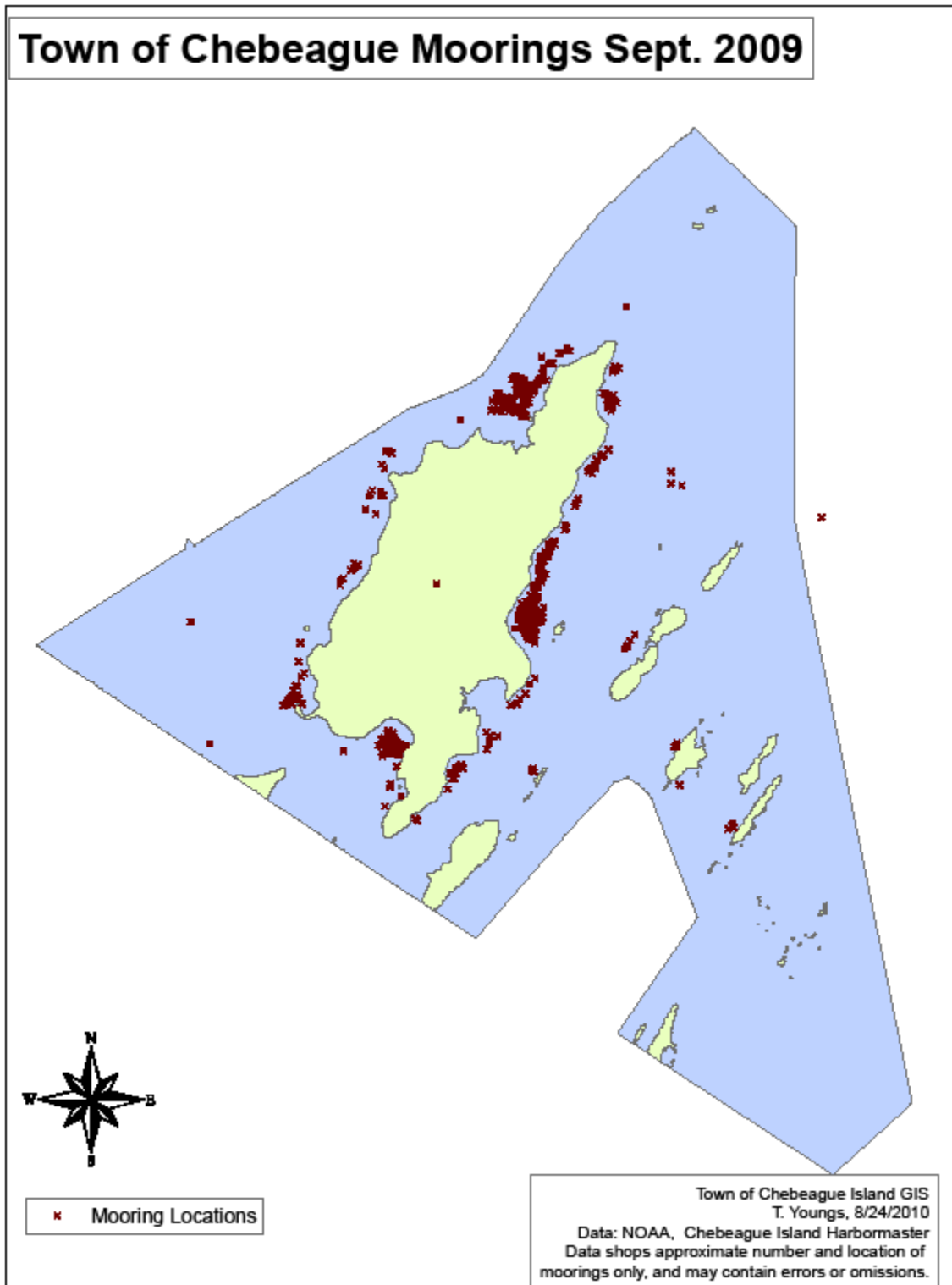
¹⁵ William Prosser's legal guide for coastal officials has this to say about "the harbor committee": Typically, the harbor committee is made up of unpaid residents of the community appointed by the selectmen. In choosing the appointees, the intent of the selectmen is to assemble a volunteer body of men and women who are motivated by a disinterested concern – disinterested in the sense that no member has any axe to grind, and concerned with the successful present operation of the harbor and an appropriate pattern of future change. They tend to be the most knowledgeable "boat people" in the community, and in theory, at least, it is their understanding of the importance of having a good working harbor that makes them willing to serve without pay." (page 22).

Table 1: Mooring Places around Great Chebeague Island

Place	# Fishing Boats 2000	# Fishing Boats 2008	# Pleasure Boats	Total number 2008
Hamilton Beach	0	0	17	17
Springettes	1	1	2	3
Fenderson Landing CFMA	3	2	0	2
Central Landing CFMA	7	5	12	17
The Boat Yard CFMA	0	1	101	102
Waldo Point	1	1	3	4
Johnson Cove	3	3	17	20
Coleman Cove CFMA	5	4	8	12
Black's Cove	2	2	?	?
Bennett's Cove CFMA	1	1	?	?
Chandler's Cove CFMA	4	7	38	45
Indian Point Cove	0	0	?	?
Sunset to Division Point	1	0	23	23
Stone Wharf CFMA	17	17	64	81
Northeast End	0	0	8	8
Little Chebeague		1	0	1
Hope Island	0	0	0	0
Sand Island	0	0	2	2
Stave Island	0	0	2	2
Ministerial Isl.	0	0	1	1
Jewell Island	0	0	0	0
Total	45	45	298+	about 400

Information from the Town of Chebeague Island Harbormaster. ? indicates an area not yet surveyed by the Harbormaster at the time this table was created in 2009,

Map 1:



With the exception of a sizeable number of fishermen who keep their boats at the Stone Wharf, most fishermen moor on the outside of the island facing the sea. They also usually go out from an area that is fairly close to where they live. Over the past eight years the number of fishermen and where they moor their boats has not changed very much. The number at the Stone Wharf has remained constant and Chandler's Cove has picked up three people (see Table 1).

Some other mooring areas -- Hamilton Beach, the back shore and the Boatyard -- are largely used by recreational boaters, many but not all of whom are summer people. This informal separation on Great Chebeague between recreational and commercial moorings probably reduces the possibility of conflicts between fishermen and recreational boaters such as unauthorized use of someone's mooring..

Chandler's Cove and the Stone Wharf are used by both fishermen and recreational boaters and are discussed in more detail below.

In addition to these regular boat moorings, there are some specialized moorings for mussel rafts, rafts for fishermen's gear and rafts for buying lobsters and selling bait.

The Town has no plan or policies about how many or where moorings can be, though the Army Corps of Engineers does not allow them more than 200 yards from the shore. There is a provision in the Town ordinance about creating a waiting list for any area where there is not enough space to assign a mooring, with a set of six priorities, in addition to location on the list, that favor commercial fishermen over everyone else, tax payers over non-taxpayers and residents over non-residents. But since there is no limit on the number of moorings the Town allows, and there is still space available, there has been no need for a waiting list.

Chebeague also does not yet have any U.S. Coast Guard designated special or general anchorages. Designating such areas means that boats that moor in them do not have to have visual and audible signals during the night or at time when visibility is poor. The 2010 Annual Town Meeting asked the Coast Guard to designate the shore around the whole island as such an anchorage.

The State, and even the Army Corps of Engineers see the increasing land values on the coast and the multiple pressures for space both on the water and on the shore from fishers, recreational boaters, housing developers and people who would like to preserve open space. They hope that communities like the Town of Chebeague Island will develop plans for their waters and harbors. But there is no legal obligation for a town to do so.

However, one of the primary tasks laid out in the ordinance for the Coastal Waters Commission is to plan for the future use of the Town's waters. A plan that could gain the acceptance of Town Meeting would be a useful contribution to shaping the future of the Town's marine economy.

Comprehensive Planning for a Town's Waters?

The State offers assistance to Town in the development of harbor plans to deal with the many conflicting uses that may occur in such a constricted space.¹⁶ But communities do not generally plan for their "open waters" which are assumed to provide room enough for all possible uses. Again, the State and Federal governments regulate certain ocean areas or ocean resources, but this regulation tends to be sectoral rather than comprehensive.

In such a system, the role of the Town is reactive. So, for example, the only role that the Town has in the granting of aquaculture leases is to be designated as "an intervenor" in the State permitting process so that it can be heard in hearings on leases. This can be done more effectively now that Chebeague is an independent Town. But at present the Town simply responds to a particular aquaculture application without having thought about which of its waters might be most suitable for aquaculture.

On the other hand, it would be possible for a Town to develop a plan for its waters. This would have no specific sanction from the State. But it would enable the Town to deal with the State on a more equal footing – if not legally, then at least in terms of data analysis and systematic thought.

Such a plan would not be easy to develop politically or technically. It would require the participation of the various users of the Town's waters such as fishermen, The Boat Yard, aquaculturists, recreational boaters, owners of cables or pipelines and commercial ferry or shipping companies. The increased organization of Chebeague's lobstercatchers in the last few years, the turnover in ownership of the Boat Yard and the sale of the mussel farm all provide opportunities and also challenges to the development of such a plan.

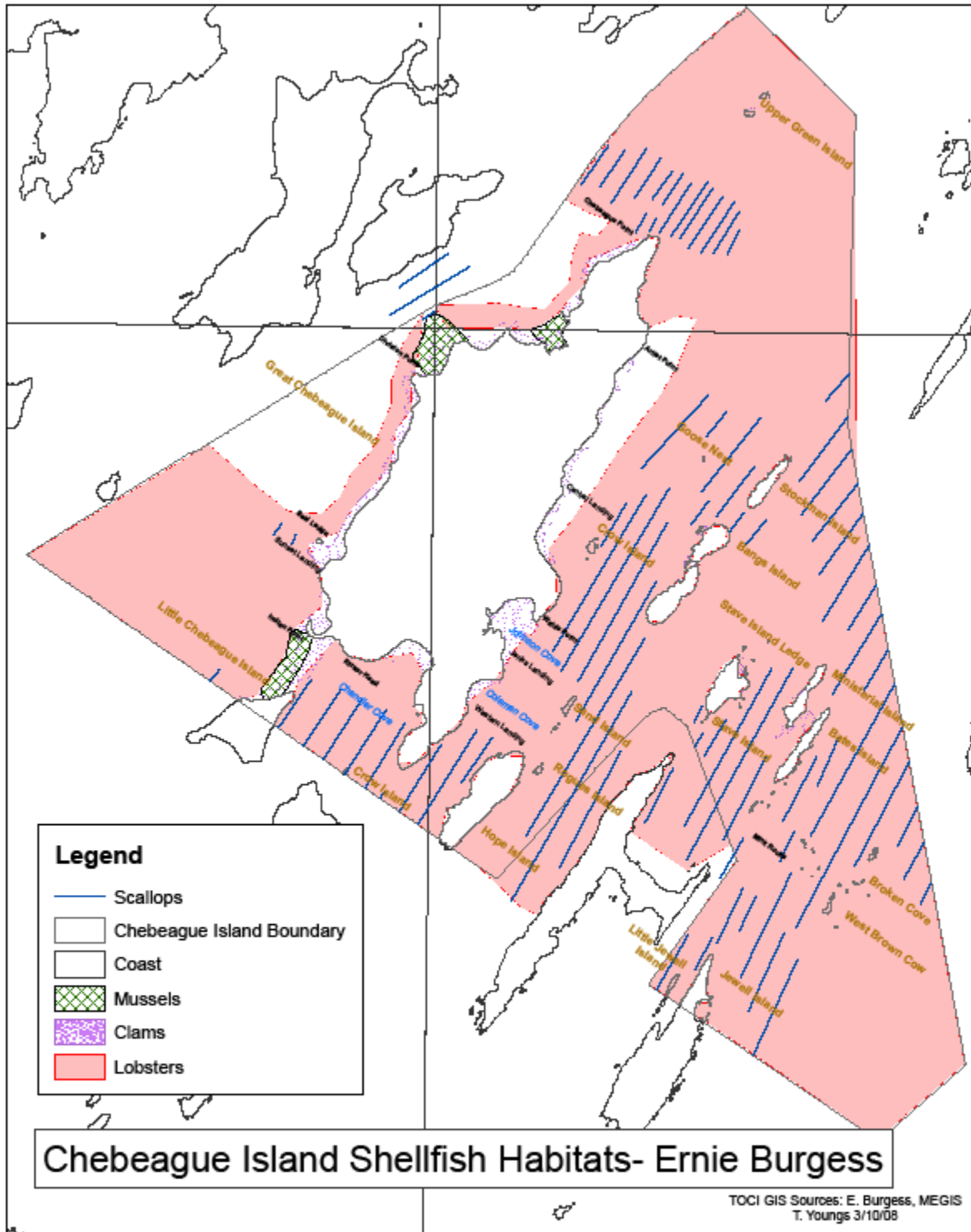
The purpose would be to anticipate and separate or mitigate conflicting uses, if possible. Lobstercatchers and other kinds of fishermen would need to identify the areas where they fish – not territories of individual fishermen, but the total area that they fish. This would define "good" lobster fishing territory experientially. This is something that Chebeague fishermen have not wanted to do. But the Island Institute has begun working with fishermen in Penobscot Bay on this kind of mapping. Technically there is probably not enough objective data on the bottom, the currents, and the resources to determine objective criteria for judging what areas might be best for particular uses from lobstering to a route for a cable or pipeline.

Map 2 is the work of one experienced Chebeague lobsterman. It suggests that there are few sizeable areas in the Town that are not good lobstering bottom, but that scallops are found in more restricted areas. The map, however, does not include cable areas or the Town's one mussel lease, just to mention two additional competing uses for the Town's bottom.

Such a plan would give both the Town and the State information in dealing with regulatory applications for State shellfish farming leases, wind turbines, pipelines or cables in Town waters. The process of using this information could also involve working with State agencies or trying, with other islands or interest groups such as fishermen, to shape policy in the State Legislature.

¹⁶ Ron Poitras. *The Right Tack: Charting Your Harbor's Future*. Augusta ME: Maine Coastal Program and the Maine State Planning Office, 1995.

Map 2:

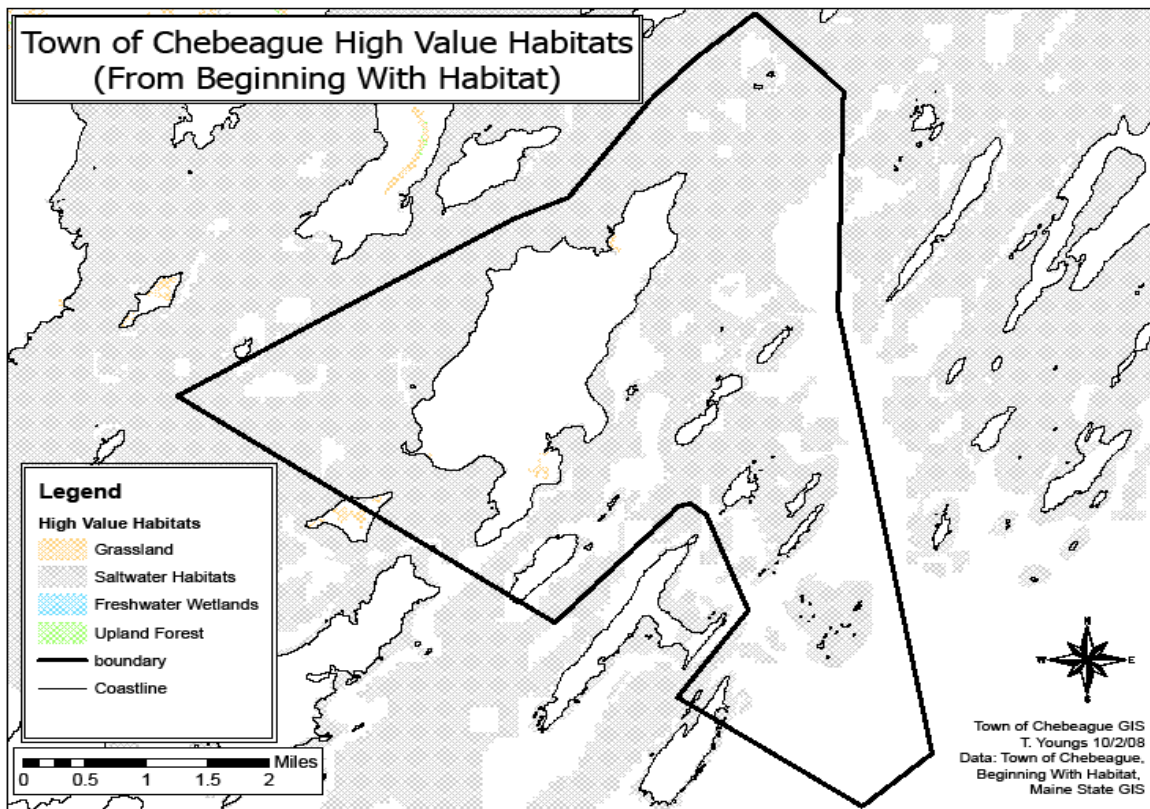


Map 2:

This chapter is not this kind of comprehensive ocean plan. This plan only suggests that the Town and its residents consider whether a planning effort of this kind would be useful in the future. However, this plan does present a much simpler “Waters Use” map that focuses on one dimension of the Town’s waters: which waters should be used and which need particularly to be protected.

Stewardship of Critical Marine Resources

Any plan for the use of the Town’s waters must deal with sustainable use and stewardship. The State’s land use guidelines focus not only on the efficient use of land for residential and commercial purposes, but also on protecting critical natural areas. These areas are called “critical” because they are so essential to the survival of valued wildlife that they need to be substantially protected from over-use and degradation. The loss of ground-fishing, urchin fishing and the present decline of scalloping all attest to the neglect of effective planning for marine sustainability.



Map 3:

The Marine Resources Inventory describes the various marine habitats in the TOCI waters and the commercially valuable species in them. Map 3 indicates that most of Chebeague’s waters are high value habitat for rare, threatened or endangered species or species with persistent declining populations designated by the U.S. Fish and Wildlife Service. The fish included in this list that

are found in Casco Bay are alewives, American eels, shad, Atlantic sturgeon, blueback herring, bluefish, horseshoe crabs and winter flounder. These are only some of the fish in the Bay, and are not generally ones that are of economic importance to Chebeague's fishermen (any more), but their habitats overlap entirely with species that are.

Again the regulation of fishing is a function of the State. Only lobstering has regular, systematized local input by fishermen. State regulations for individual fisheries are supposed to insure that only sustainable numbers of fish or shellfish are harvested. But tradition and political pressure from fishermen have kept harvests at unsustainable levels. Lobstering has been one of the few continuously productive fisheries partly because lobstercatchers have historically managed their commons. But the tremendous increase in lobster landings since 1990 has worried both fishermen and State officials, so that fishing effort is now being reduced.

Map 4, the "Use" map of the Town's waters, designates two different kinds of areas that parallel separate kinds of uses on the land. One is the designation "Critical Marine Natural Area". Other areas are designated "marine Use Area", similar to the Rural Use area on land. This plan does not envision any reorganization of fishing regulations in the State, but there are several things that the Town of Chebeague Island can do to be good stewards of the Town's waters. One is to keep pollution out of them. Another is to maintain the natural eco-systems related to beaches, salt marshes and mud flats. A third is to consider some regulation of eelgrass beds.

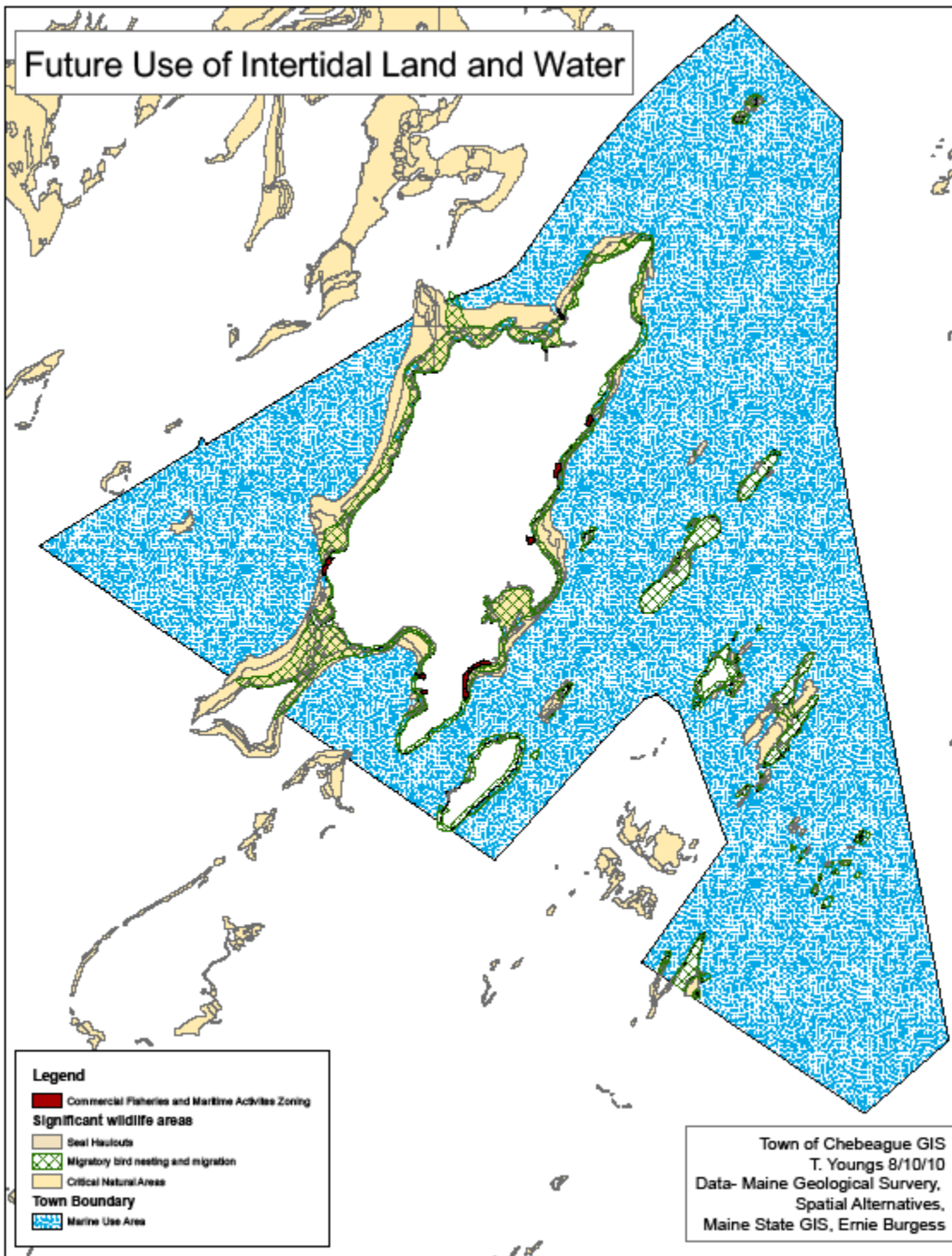
As the Marine Resources Inventory indicates, Chebeague's waters, especially on the ocean side of the island, are moderately oxygen rich and clear, as measured by the water monitoring of Friends of Casco Bay. However considerable pollution runs into the Bay from not only the mainland but from islands like Chebeague. Excess nutrients from sediments, sewage and fertilizers encourage the growth of green algae which kills marine animals underneath it. In late summer it is now found on Chebeague's most productive clam flats. Petroleum residues and pesticides also run off the land, harming marine life.

Since much of the pollution comes from the land, recommendations for reducing it are made in the chapter on Clean Waters. However, the pollution from boats and ships, particularly the sewage when they empty their heads into the Bay, is something that could be dealt with in a plan for the Town's waters.

The areas along the shores of the islands show, in detail in Map 4 the various kinds of critical marine natural areas in the intertidal zone :

Beaches are very dynamic environments. The sand shifts seasonally in the cycle of storms and calm weather. The upland edge of the beach is marked by a sand dune or berm. On Chebeague, these are not large, but they serve as a barrier that normally prevents the salt water from entering freshwater marshes behind the beach. This is an integrated ecosystem, in which all the parts must be maintained for the system to function. Beaches can be used for recreation, and as staging areas for fishing, but the State prohibits development on beaches.

Map 4:



Mud flats are of economic value to the Town for clamming. The Town has a Shellfish Warden and a Shellfish Commission who monitor and manage the flats.

Salt Marsh is not very common in the Town. It forms an integrated upland part of several important clam flats such as Johnson's Cove and the Hook, and needs to be maintained as part of the mudflat ecosystem.

Eelgrass beds play an important role in providing nursery habitat for marine animals such as lobsters, scallops, winter flounder and mussels. They occur in shallow waters where the grass can get plenty of light. The eelgrass also traps suspended sediments and so helps to clear the water and let the sunlight penetrate.

In the past eelgrass suffered from a long-term decline as result of disease, but it seems to have recovered from this. The primary threats to it today are shading from wharves, physical harm and pollution. The grass itself can be cut off or uprooted by mooring chains and, in some places, dragging for mussels. Excessive nitrogen flowing into the Bay from fertilizers and sewage on the land can create algae blooms that cut off sunlight and kill the eel-grass.

Since much of the eel-grass grows below the normal low-tide line it is in State jurisdiction. The State has no policies for specifically protecting eel-grass, though review organizations like the Army Corps of Engineers, weigh seriously the impact of projects like wharves on eel-grass beds, as Chebeague found in the review of a proposal for a CTC wharf at the power plant on Cousins Island. But since eelgrass beds do occur in waters close to the shore, they could be given particular attention in the process of designating mooring/anchorage areas. In addition, it would be possible to require more eel-grass-friendly mooring gear.

The rest of the Town's waters are designated as a Marine Use Area parallel to the Rural Use Areas on the land for farming and forestry. These are extractive industries, just as fishing is on the water. Like farming and forestry, fishing can be sustainable or not. The purpose of designating these areas is to highlight the need to at least encourage sustainable use.

The existing Shoreland Zoning classifies a few areas of the Town's shoreline as Resource Protection Zones where only minimal-intensity uses such as recreation are allowed by right and economic uses such as aquaculture and timber harvesting are allowed by permission of the Planning Board. The current RP areas are: Indian Point, some beach and wetlands at Chandler's Cove Beach, Sandy Point, the entire shoreline of Johnson Cove, and the wetland and beach at Rose Point. The Land Use chapter has recommended adding the beaches and freshwater wetlands at Springettes and Bennett Cove.

It would be possible to designate the areas shown on Map 4 as Resource Protection. This would exclude the Commercial Fisheries/Maritime Activity zones where intensive water-dependent uses are allowed. This designation would only apply to the shore-line itself, not to the larger Shoreland Zone.

This designation would only be reasonable, however, if commercial and recreational clamming were allowed in the RP Zone.

It is also possible under the Shoreland Zoning for a Town to designate coastal access areas, scenic areas and areas with archaeological remains as Resource Protection as well.

4. Running the Town

In the Town of Chebeague Island, the extension of public infrastructure is a very weak tool for shaping development. In communities with public sewers and water lines planned extensions of these services, as well as the extension of roads, can shape where new development will occur, as well as insuring that new development is adequately served. On Chebeague none of these tools are available. There are no public sewers and most houses have private wells. Even the primary road system on Great Chebeague is essentially complete.

The ferry services could potentially encourage growth by making access to the island easier. However, the CTC is very much constrained in its growth by the legal settlement with the residents of Cousins Island and the agreement with Yarmouth. For the Casco Bay Lines, the down-bay service is required by its enabling legislation but is not seen as a growth area.

The rest of the Town's infrastructure and public services – the Transfer Station, the Fire and Rescue Department, the Cemetery, the Stone Wharf and the Public Service Department – are basic and adequate but are more likely to have to adapt to whatever development occurs over the next 10 to 15 years rather than playing a role in shaping it. The Town also faces the same problem that many other service providers on the island do of needing to have the capacity to meet much higher demand in the summer than during the rest of the year.

Because transportation, both to the island and on the island, and public facilities play so little role in promoting or shaping growth on Great Chebeague, and none at all on the outer islands, they have been grouped together under the heading of "Running the Town". Indeed, they are critical for the day to day operation of the Town. One aspect of the CTC ferry service, the cost, does have implications for growth on the island. It is dealt with on the chapter on the Cost of Living.

In a number of cases, buildings or equipment for transportation and public services may need to be funded through the capital budget. In addition, the Town is very much aware of the need for these services to be run efficiently. So there are some recommendations for improving them that belong in the Comprehensive Plan along with the discussion of the Town's fiscal capacity to provide them.

4.a. TRANSPORTATION TO THE ISLAND: FERRIES

Transportation to the mainland, including transportation of both goods and people, has been a major issue for Chebeague for more than 50 years and will probably always be a central concern for the island. Many of the issues about this transportation revolve around the two ferry services that serve the island. The recent histories of Chebeague's two ferry lines, the Chebeague Transportation Company and the Casco Bay Lines, are described in the Transportation to the Mainland inventory.

Map 1 shows the ferry routes, landing sites and parking lots that serve Chebeague. It also indicates the routes used by barges to Yarmouth and Portland.

It is also useful to remember that ferries are not the only form of transportation to and from the island. Some people, particularly residents on the outer islands, travel to and from during the summer in private boats. On the mainland side there are a number of places where moorings could be set and there is some limited space at the Cousins Island Wharf. However, the practice of using private boats is not very common in the winter. It is also possible to get service to and from Chebeague 's islands by Portland Express water taxi. The Marie L., based on Chebeague, also takes groups on tours around the upper Bay.

In addition, both ferry companies carry freight, as do several barging-only companies such as Lionel Plante (Peaks Island) and Island Transporter (Rockland). Barge landings are discussed in the chapter on Wharves, the Working Waterfront and the Outer Islands.

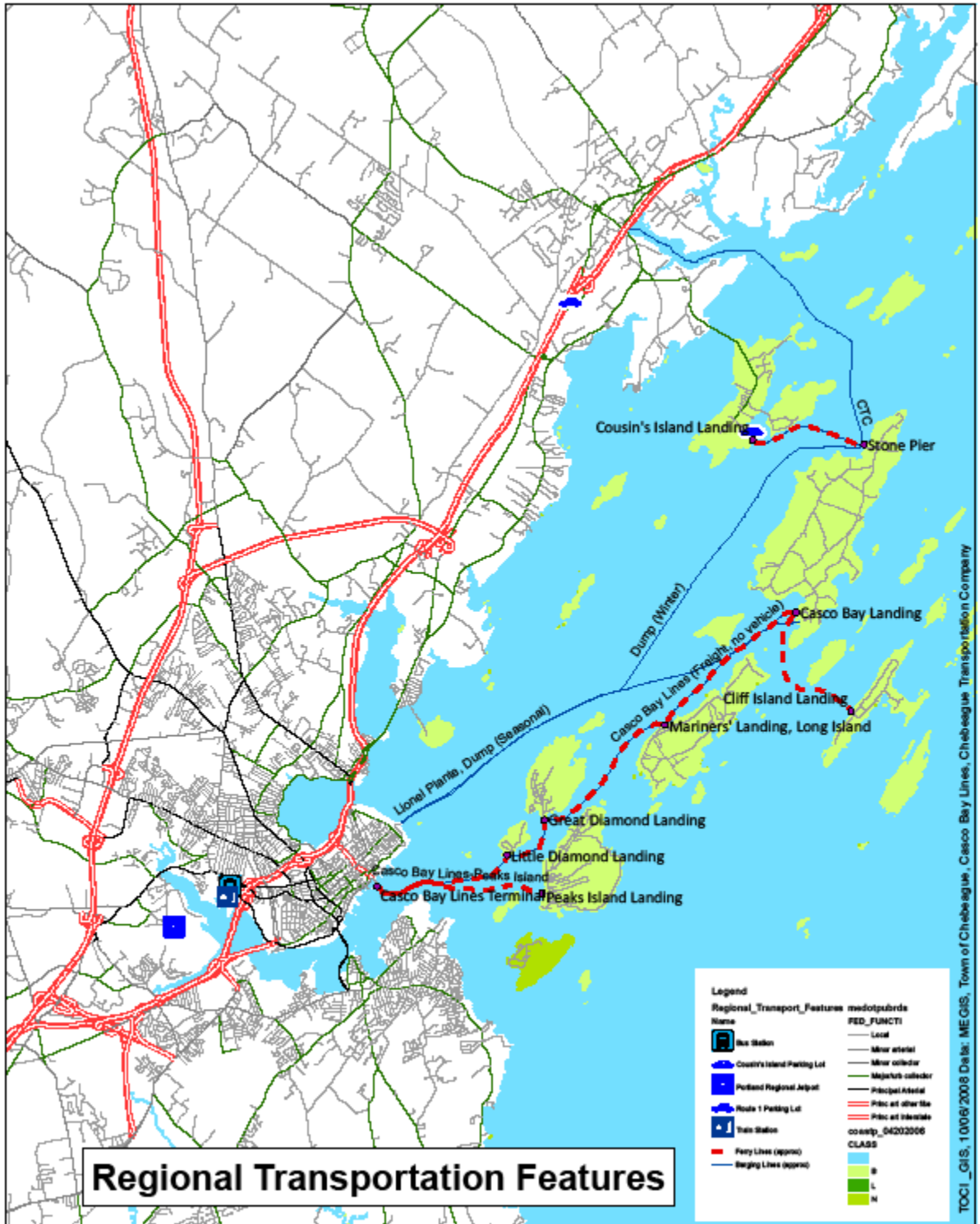
By 2009 the question of the survival of the CTC ferry service and its mainland parking operations, issues that had been central issues for the island since the 1980s, had been resolved, at least for the moment. In this Plan the focus shifts to the different, though also much-discussed issue of whether the capacity and location of public wharves and barging ramps on Chebeague is adequate for the long-term future of the island. These issues are discussed in the chapter on Wharves, the Working Waterfront and the Outer Islands. This chapter focuses on the two ferry companies' roles in the Town's transportation system. Since neither ferry is owned by the Town the recommendations in this plan are quite limited.

It may also be useful at the beginning of this section to make a couple of points about the role of transportation to the mainland in the community. The two ferry companies provide essential services to the community. Without their passenger and various freight services, life on Chebeague as we know it would be impossible. They also contribute to the Chebeague economy. And finally they may develop stronger relationships with the Town government though this is much more true for CTC than for CBL.

Goals and Recommendations

The Goal is: EXPLORATION OF THE FUTURE RELATIONSHIP BETWEEN THE TOWN OF CHEBEAGUE ISLAND AND THE CHEBEAGUE TRANSPORTATION COMPANY AND THE CASCO BAY LINES.

Map 1:



Recommendation: Given Chebeague’s dependence on its ferries, the Town should actively work with both companies to insure that its interests are effectively represented in their decision-making.

THE TOWN AND CTC SHOULD ENGAGE IN A DISCUSSION ABOUT WAYS TO REDUCE THE COST OF TRANSPORTATION TO THE MAINLAND BY INCREASING REVENUES, LOWERING COSTS OR HAVING A SUBSIDY.

Recommendation: The Town should closely follow CTC’s reorganization plans and make a decision whether to encourage movement toward CTC becoming a Transit District with a closer relationship with the Town.

Recommendation: If the Town considers providing any additional operating subsidy to CTC to lower parking fees or ferry fares, it needs to consider what impact the subsidy is likely to have on future growth in the Town.

Discussion

The Role of the Ferries in the Chebeague Economy

CTC is a more central concern in this plan in part because it is an important part of the Chebeague economy, while the Casco Bay Lines is less central but still important.

In 2009 CTC had 25 employees, nine of whom were full-time captains, deckhands or administrative personnel. Of these full-time employees, seven lived on the island. The remaining 16 were part-time bus drivers or fill-in deck hands, three of whom are from the island. The Company provides full-time employees with a variety of benefits including a pension plan and supplemental health care coverage.

In 2009, CBL had 40 year-round employees and 79 seasonal ones. None of them live on Chebeague. However, CBL makes regular freight shipments that are needed by island businesses such as the Store and the Inn, but which are not large enough to require a barge trip. It also has the mail and UPS/FEDEX contracts, ships food from Portland supermarkets to the islands and carries other things such as propane tanks and redeemable bottles and cans.

In fact, both ferries are critical to the survival of the island economy because, quite aside from carrying passengers, they bring out most of the goods for businesses and individuals that are supplied from the mainland – groceries, plants, appliances, car parts, clothes – virtually anything that is not grown or harvested on the island. Barges owned by CTC and other barge companies bring the rest. Less noticed, the ferries and barges also take off all of the refuse that island generates. CBL, for example, transports all the redeemable bottles and cans into a recycling center in Portland.

The Relationship of the Ferries to the Town

The Casco Bay Lines has very little formal relationship with the Town of Chebeague Island. On the other hand, CTC and the Town are highly interdependent, a relationship that sometimes

produces conflict, but also makes CTC lean toward the idea of, at some point, becoming a Transit District under the Town.

CBL

CBL has no formal ties to the Town. In 1980 the private Casco Bay Lines, based in Portland, went bankrupt. And in 1981 the Legislature created the Casco Bay Island Transit District (CBITD). This “quasi-public” transit district is an independent agency with an elected Board of Directors with one representative (taxpayer or resident) from each of the down-Bay island, three from Peaks, two at large island members, one person appointed by the State and one, by the City of Portland.

Chebeague is a small piece of CBL’s operation. The island provides 1 percent of the riders on the CBL, but is a steady, year-round user of CBL’s freight service.

A major difference between CBL and CTC is that the former gets 18 percent of its operating revenue from State and the Federal subsidies. It can also apply for capital funds for boat replacement to both the State and Federal governments.

The Chandler’s Cove pier at which the CBL lands belongs to the State which last replaced the facility in 2000. The pier itself is designed for and used only by CBL. The Town owns one float next to the pier that is used by fishermen and other people coming ashore on Chebeague from boats.

CTC

CTC is a private, stock-holder-owned company. A for-profit transportation company is now quite unusual in the Portland region and in Maine in general. As such, CTC must operate and replace its capital stock such as boats and buses on the revenues it can earn. It does not qualify for any grants or subsidies from the state or Federal governments. Most residents of the island own stock in the company. CTC owns its two ferries and its barge and push-boat. It rents two parking lots on the mainland. Its Route 1 lot is leased from the Town of Cumberland. The State owns the Blanchard Lot and right-of-way to the lot, leases the property to the TOCI which, in turn, subleases it to CTC. CTC uses the revenues from the mainland parking and, more significantly from its barging operation to subsidize the cost of running the ferry itself. It also owns and runs the buses that serve the Route 1 parking lot.

However, CTC depends significantly on the Town in a variety of ways. During the struggle to insure permanent ferry parking on the mainland in the 1990s, when Chebeague was still part of Cumberland, the Town played an active role in helping the company work with both the Town of Yarmouth and the State. In 1989 the towns of Yarmouth and Cumberland reached a legal agreement which stipulated things like the number of trips CTC could run, its hours of service and the size of the ferry. This agreement was renewed in 2008 between Yarmouth and the new Town of Chebeague Island.

Much of the marine infrastructure that is used by the CTC also is provided by the Town of Chebeague Island. On the island the Stone Wharf which is used by the CTC is owned and maintained by the Town, as is the parking area that serves the wharf. CTC is a major, but not by

any means the only user of the wharf. The Town also builds and maintains all the floats at the wharf, including the one used by CTC.

CTC provides several significant public services to the Town. It provides transportation free of charge at any time of the day or night for the Rescue Service, taking patients to meet the ambulance at Cousins Island. It does the same for police coming to and from the island. It also holds the contract for transporting island children to school on the mainland. It provides free parking and transportation for funerals, and for people visiting relatives during extended periods of medical treatment. Cumberland had an arrangement with CTC to transport Town officials back and forth free of charge. But this is not the case with the Town of Chebeague Island.

Since 1993 there have been community-wide discussions about how CTC might best be organized to fend off attacks and take advantage of available resources. In 1993 the Community Transportation Forum considered the pros and cons of a variety of governance models, from the existing for-profit private company to a non-profit, to a quasi-public transit district, to a municipal transit district, to ownership by the Town. At various times in the past, including during the secession movement, there was discussion of having the Town either take over and run, or provide an explicit operating subsidy to the Company.

A discussion between the CTC Board and the Comprehensive Planning Committee indicates that the CTC is working on a plan to reorganize the company to make it eligible for the same kind of state and Federal aid that is available to CBL. Initially, perhaps as soon as 2011, they expect it will become a non-profit. Then they hope it may become a quasi-public or municipal transit district with a much closer relationship to the Town government.

Because the cost of transportation, primarily on CTC, is one of the things that discourages people, especially working families, from moving to the island and creates a burden on those who already live here, the Planning Committee is recommending that the Town explore with CTC how these costs might be reduced. Such discussions would probably, inevitably, raise the question of whether the relationship between CTC and the Town should change.

Relationship between CTC and CBL

Officially, there is no relationship between CTC and CBL. Indeed, the past history is one of competition and bad feeling which resulted in the development of separate areas of operation for each ferry. Casco Bay Lines has a monopoly on carrying passengers south of Tukey's Bridge dividing Portland from Falmouth. CTC can only carry passengers outside of that area.

However recently CTC and CBL have discussed sharing back-up boats. CTC's back-up boat is the Pied Piper. CBL owns five vessels including a car ferry, the Machigonne II, for Peaks Island. Generally four of the boats are in regular operation and the other is used when a regular boat has to be worked on or is being used for a charter. It might also be possible to make CTC's Pied Piper available to CBL for charter cruises.

4.b. TRANSPORTATION ON THE ISLAND: ROADS

Chebeague is unusual, though like other unconnected islands, in having no road connection to any other town, no through traffic, no state roads and a multi-modal trip (car, passenger ferry, for many, bus, and car) for any trip to the mainland. Because of this unusual connection to the rest of the State transportation system of roads and mass transit, the Town is essentially invisible in the Portland Area Comprehensive Transportation Plan, *Destination Tomorrow 2006*.

However, Great Chebeague is large enough that walking, biking and golf carts, especially in the winter, are not adequate modes of local transportation in the 21st century. So virtually all households have at least one car on the island and one on the mainland. The island has a well-developed system of 15 miles of fairly narrow, rural, public roads. This chapter is concerned particularly with the nature, condition and safety of those roads for pedestrians, bike riders and drivers.

The issues related to alternatives to automobiles on the island, the trip to the mainland, and the impact of this transportation system on the mainland is discussed in the *Inventory of Transportation to the Mainland* and the Plan Chapter on Ferries. The only area where there are significant congestion problems on Chebeague is at the Stone Wharf. This is discussed in the Working Waterfront Chapter.

Goals and Recommendations

The Goal is: IMPROVED ROADS

Recommendation: Carry out and adjust as necessary the 2010 Road Plan.

Recommendation: Estimate typical cost of possible upgrades, for example, widening roads, paving gravel roads or returning paved to gravel roads. Allocate money for engineering help for this.

Recommendation: Determine what kind of road upgrades residents want to see in light of options and costs.

Recommendation: The Town should evaluate and prioritize drainage areas that need work and acquire drainage easements when the opportunity arises.

Recommendation: Develop and adopt road standards for public and private roads.

The Goal is: DEVELOPMENT OF FAIR AND COST-EFFECTIVE TOWN POLICIES FOR ACCEPTING AND/OR MAINTAINING PRIVATE ROADS

Recommendation: Road standards for public and private roads should be generally similar.

Recommendation: Develop a policy for maintenance and winter plowing of public and private roads.

The Goal is: ACCURATE INFORMATION ABOUT THE TOWN'S ROADS

Recommendation: Compile accurate road descriptions and documentation for all Town roads.

Recommendation: Act on all possible paper streets before 2017. Allocate funds for research, survey and legal services on this issue

The Goal is: SAFETY OF THE MULTIPLE USERS OF THE TOWN'S ROADS

Recommendation: Evaluate current locations of street lights and determine, with public input, where there should be more or fewer.

Discussion

While Chebeague was part of Cumberland, the expense of work on the island roads made them a low priority for the Town, though this was remedied somewhat between 2000 and 2007.

Because so little attention has been paid to Chebeague roads over many years, there are three issues that need long-term planning attention:

- The “deplorable” current condition of most of the public roads and what work needs to be done to bring them up to some acceptable minimum standard.
- What standards does the island community want its roads to be built and maintained to? Now the roads are fairly narrow and are shared by cars, pedestrians and bicycles. Should some or all be wider? Should there be provision for bikes and pedestrians in separate
- lanes? Should they be paved, gravel or some combination, as at present? Should private roads be similar to public ones?
- Where will the gravel that is necessary for road construction and maintenance come from? In the past the island has had several gravel pits but at present has little gravel that comes from the island. Gravel mining uses up gravel that forms the island's aquifer recharge areas. Can we have both gravel and adequate, unpolluted water?

In April 2010 a Task Force to Develop a Road Plan, made up of two selectmen and a member of the Comprehensive Planning Committee, made a report to the Town on the present condition of Chebeague's paved, public roads along with options for maintaining and repairing them. The Comprehensive Planning Committee agrees with the strategy laid out in this plan.

On the issues of what standards the Town wants to set for its roads, and where the material for working on them will come from, this Plan can raise and frame but cannot make definitive recommendations on because they require additional community discussion.

The Road Network

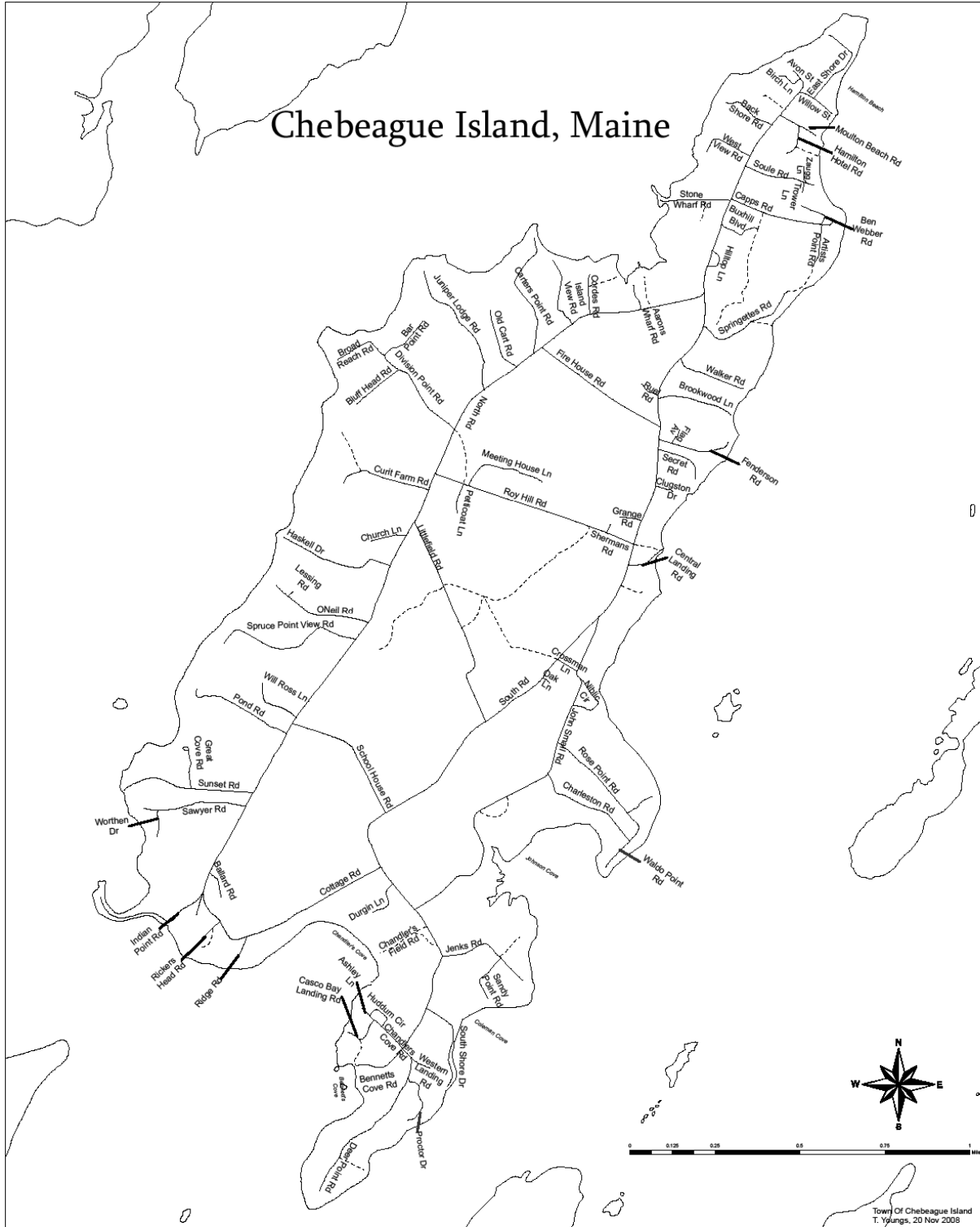
Map 1 shows all of Chebeague's roads as they are defined for the 911 emergency response system. This includes not only public roads but any private road that has houses on it. Table 1 lists whether roads are public or private and Map 2 shows where they are. Today Great

Table 1: TOWN OF CHEBEAGUE ISLAND ROADS

Name	Ownership	Width	Paved Ft.	Gravel Ft.	Class
Aaron's Wharf Road					Res
Artist Point Road					Res
Ashley Lane					Res
Avon Street					Res
Back Shore Road					Res
Ballard Road					Res
Bar Point Road	Town	20 feet	825		Res
Ben Webber Road					Res
Bennett's Cove Road	Town			898	Main
Birch Lane					Res
Bluff Head Road					Res
Broad Reach Road					Res
Brookwood Lane					Res
Buxhill Boulevard					Res
Capps Road	Town	17.5 feet		695	Res
Carter's Point Road					Res
Casco Bay Landing Road	Town	19	739.2		Main
Central Landing Road					Res
Chandler's Cove Road	Town	19	633.6		Main
Chandler's Field Road	Town			x	Res
Charleston Road	Private Easement	12		1750	Res
Church Lane					Res
Clugston Drive					Res
Cordes Road	Town			792	Res
Cottage Road	Town	18	3,696		Cross
Crossman Lane					Res
Curit Farm Road					Res
Deer Point Road					Res
Division Point Road	Town	20	1,900		Cross
Durgin Lane					Res
East Shore Drive	Town		1,531		Res
Fenderson Road	Town	14	215	788.2	Res
Firehouse Road	Town	19	2,165		Cross
Flag Avenue					Res
Grange Road					Res
Great Cove Road					Res
Hamilton Hotel Road					Res
Haskell Drive					Res
Hill Top Lane					Res
Huddum Circle					Res
Indian Point Road	Town			1,690	Res
Island View Road					Res

Jenks Road	Town			1,742	Res
John Small Road	Town	19	5.940		Main
Juniper Lodge Road					Res
Landfill Road	Town	19	305		Main
Lessing Road					Res
Littlefield Road	Town	13		3,379	Cross
Meeting House Lane					Res
Moulton Beach Road					Res
North Road	Town	21	13,250		Main
Niblic Circle					Res
Oak Lane					Res
Old Cart Road	Town	21	1,005		Res
O'Neill Road					Res
Petticoat Lane					Res
Pond Road					Res
Proctor Drive					Res
Ricker's Head Road					Res
Ridge Road					Res
Rose Point Road	Town			2,059	Res
Roy Hill Road	Town			3,432	Cross
Ruel Road					Res
Sandy Point Road					Res
Sawyer Road					Res
School House Road	Town	20	2,170		Cross
Secret Road					Res
Sherman's Road					Res
Soule Road	Town			1,214	Res
South Road	Town	20	18,075		Main
South Shore Drive	Town			1,425	Res
Springettes Road					Res
Spruce Point View Road					Res
Sunset Road					Res
Trower Lane					Res
Waldo Point Road	Town			580	Res
Walker Road					Res
Western Landing Road					Res
Wharf Road	Town	22	1.385		Main
Will Ross Lane					Res
Willow Street	Town			264	Res
Worthen Drive					Res
Zaugg Lane					Res

Map 1: Roads



Chebeague has 15 miles of public roads. Of these 10.8 miles are paved, leaving only 4.1 miles of gravel crossroads and roads down to the water. These roads make up a fairly efficient network for moving around the island and getting easily from one place to another. For a rural area there is good “interconnectivity” meaning that you can get fairly easily from one end of the island to the other and across it in between.

There are three types of roads on Chebeague (Map 3). “Main” roads like North, South, John Small and Wharf Roads have about 20 feet of pavement and carry a fair amount of traffic much of the length of the island. They are paved and have intersections with other roads. “Cross” roads like Firehouse or School House Roads are shorter, somewhat narrower – about 18 feet but sometimes less, don’t have intersections and carry less traffic. Both main and crossroads carry enough traffic to be “public” rather than “private” roads, and are owned and maintained by the Town. Some carry enough traffic to be paved.

The third kind of roads, “residential” roads, are the smallest and carry the least amount of traffic, taking a few people to a small number of houses. Most go down to the shore from main roads. Almost all are narrower and unpaved.

The network of main and cross roads is fairly complete. As new development occurs, new residential roads, and occasionally a “cross-road” sized road will be needed.

Traffic

The Town Clerk says that there were 350-400 vehicles in island use in 2008. This includes both vehicles used year-round and those owned by summer residents. Construction workers and summer visitors often barge cars and trucks over from the mainland for limited periods of time. In the summer there may be as many as 600 vehicles on the island at any given time.

Vehicles include not only cars and trucks of various sizes, but also golf carts and several other small, electric vehicles. Chebeague does not license bicycles, so there is no count of how many of them there are; but there are many. In addition, some very large trucks, such as oil tank trucks, dump trucks, the schoolbus and the fire engines, live on the island. Others are barged over from the mainland and driven on Chebeague’s roads. These include the trucks for hauling the dumpsters to and from the Transfer Station, various construction vehicles including cement mixers, and the truck for pumping out septic systems.

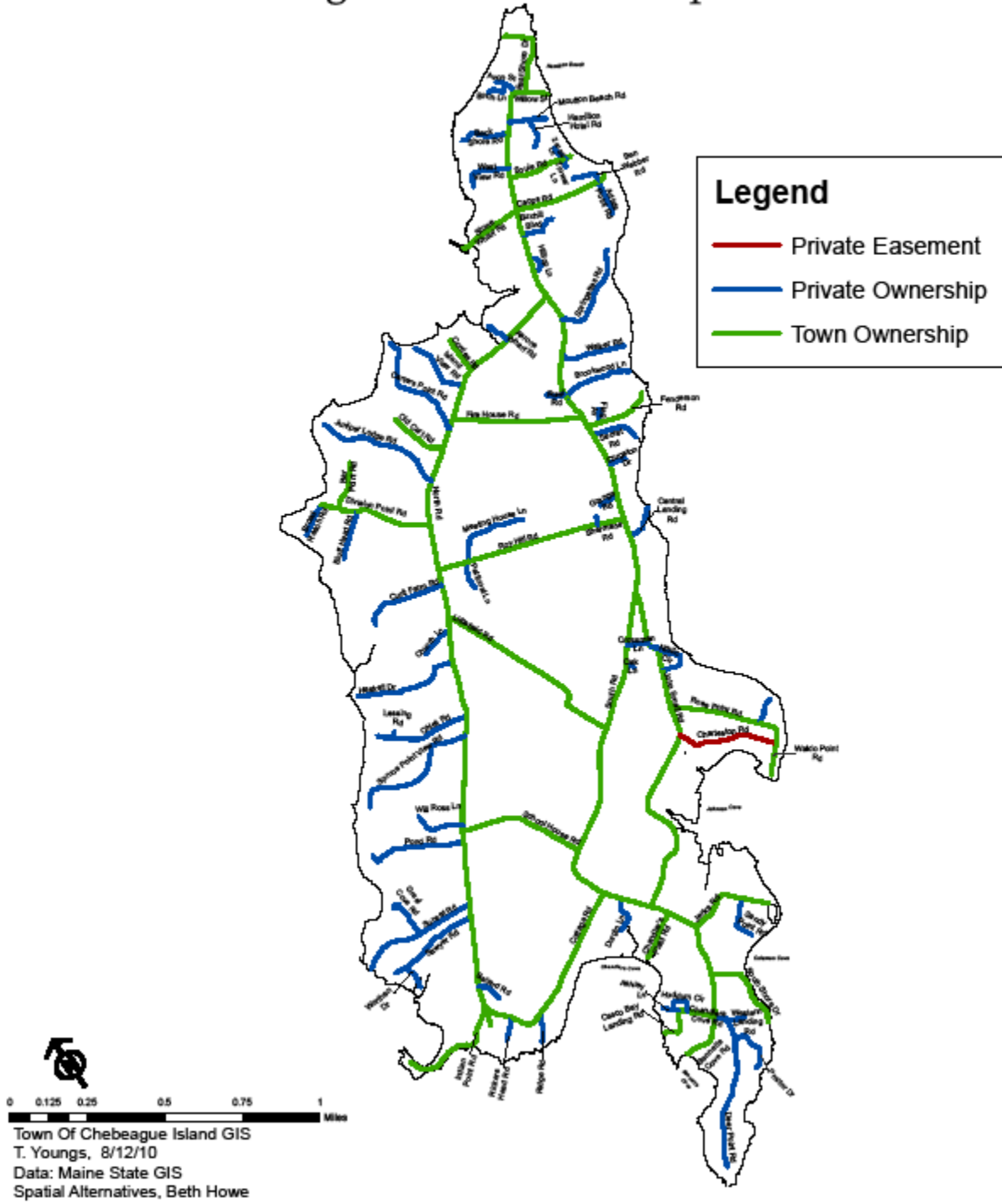
Where is the heaviest traffic? Traffic can be looked at in terms of volume and also in terms of weight. 20 cars per day may not be a lot with respect to road maintenance but 1 cement truck per month might be. There are also a few predictable routes and areas that will receive higher volumes and heavier traffic:

Bennetts Cove – This landing is used by the barge to bring the solid waste hauling vehicles as well as construction related vehicles on a regular basis.

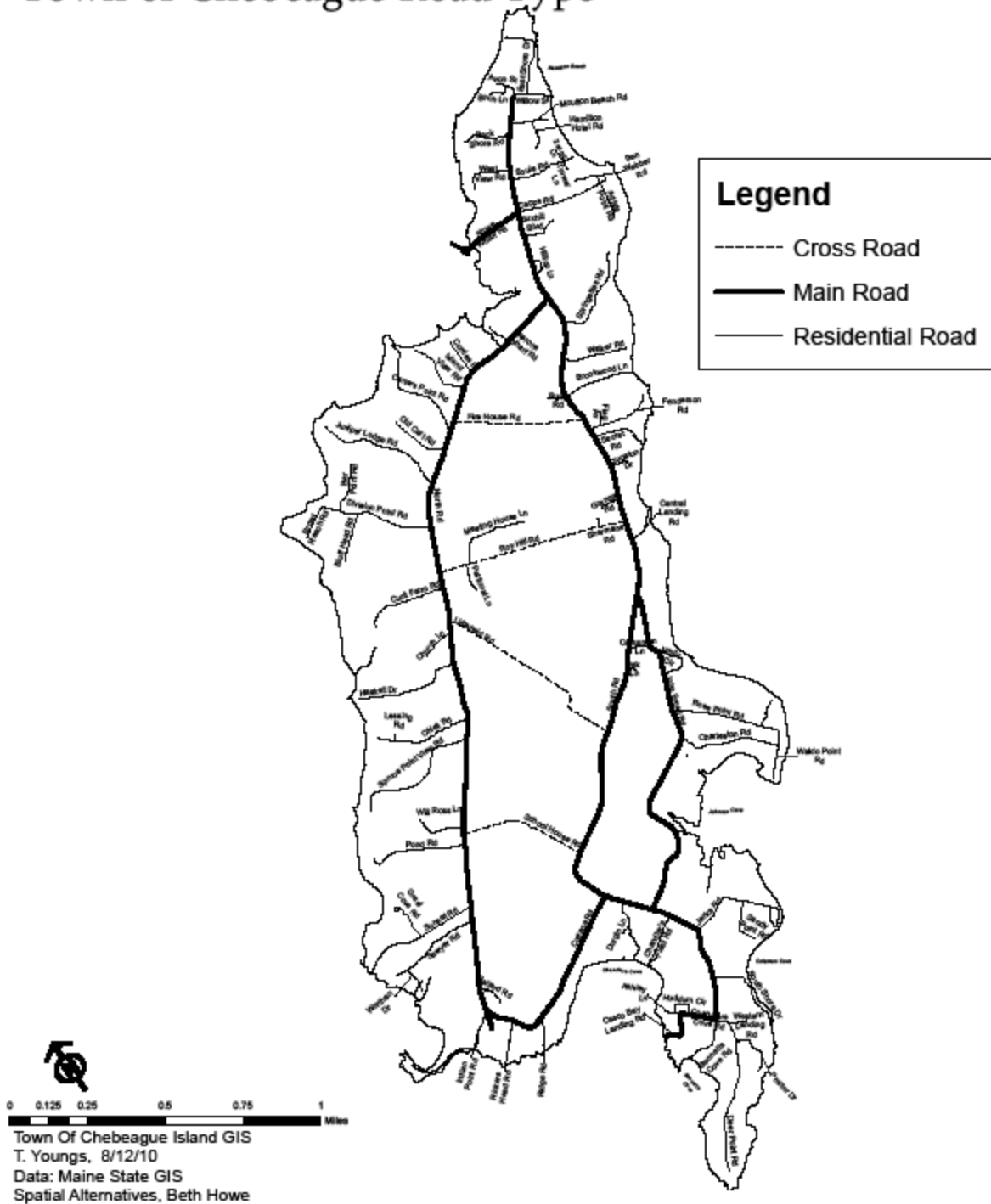
The Solid Waste Route - The route from Bennetts - South Road – School House – North Road – Transfer Station Access Road could reasonably be considered a route used more than any others on the island for heavy traffic. Solid Waste hauling in the summer can

Map 2:

Town of Chebeague Road Ownership



Town of Chebeague Road Type



Map 3:

occur twice a week, and is probably twice a month in the winter. This route currently has some of the worst paving conditions and also some of the better paving conditions on the island. The transfer station access road and adjacent area of North Road get extra traffic from residents dropping off trash at that facility.

Boat Yard (John Small Road) – Given new development at the Boat Yard, including the Niblic and the Post Office, this area of John Small has seen increased traffic. The oil delivery trucks are currently kept at the Boat Yard, and while heavy vehicles may not be the major concern, traffic volume may be. The paving conditions on John Small are now some of the worst.

The Center (South Road) – The Store, Library, and Hall also naturally attract more traffic volume than other areas.

The Public Works Building (Littlefield Ave.) – The public works facility has heavy vehicles traveling to and from it on a regular basis.

The Wharf Road – Has a high volume of traffic. CTC barging operations there frequently bring moderately large trucks, and sometimes larger barges bring the Transfer Station vehicles in at the Stone Wharf.

Road Conditions

Most of the island's roads are deplorable, one of the biggest frustrations I had with Cumberland governance. I would like to think that our existing tax base can support a meaningful re-paving effort. (Plan survey respondent).

Good roads have to be built and maintained to be “good”. A good road must have a good base of gravel that drains well. A rule of thumb is $\frac{3}{4}$ -1 inch of gravel for every foot of traveled way width; so a 20-foot wide road should have a minimum of 15 to 20 inches of gravel base. The material in the road should be of good quality and well compacted. The road must be designed to carry the largest vehicle that would be driven on it – in Chebeague’s case, the trucks carrying dumpsters from the Transfer Station, dump trucks or concrete mixers. And the road must be designed to drain well. This includes having a crown that sheds the water and adequate shoulders, ditches and culverts to carry water away from the road and not allow it to accumulate in the road base. There is little point in resurfacing a road with poor drainage – the potholes will simply return.

In addition, the least costly way to have good roads is to do good routine, preventive maintenance on roads that are in good condition already. Once roads have been allowed to deteriorate, bringing them back to good condition through rehabilitation or reconstruction, costs many times what it would have cost to maintain them. After the Patriot’s Day storm in 2007 Cumberland used FEMA money to rebuild Roy Hill and Bennett Cove Roads. A few years before that South Road was resurfaced from Wharf Road to Roy Hill Road. These are roads that now need to be well maintained to retain the value that was recently put into them.

The Task Force to Develop a Road Plan inventoried 9.2 miles or nearly all of Chebeague's paved roads (Map 3) using a methodology called the Road Surface Management System (RSMS) developed by MDOT. The data collected by the Task Force was entered into this software which then calculated summary measures of the condition of the roads, what kind of maintenance they needed and options for that, including costs.

The result indicated that Chebeague has 2.84 miles (31 percent) of road that is in good shape, needing only, at most routine maintenance. At the other end of the spectrum, it has 4.31 miles (47 percent) of roads in poor condition. These need either complete reconstruction or major rehabilitation. In between are 2.05 miles (22 percent) of road that are deteriorating but could be brought back from this decline by timely preventive maintenance. Segments of road were prioritized according to the kind of traffic they carry, their importance, and the nature of the surface – balancing the need to do preventive maintenance with routine maintenance.

After holding a public hearing on the plan, the Selectmen included money in the 2010-2011 capital budget to begin this work.

Road Standards and Public and Private Roads

What difference does it make that there are three kinds/sizes of island roads? Different roads carry different amounts and weights of traffic and need to be built with that in mind. This is usually done by having “road standards” – minimum standards for the construction of new roads of different sizes and purposes.

As was indicated above, the system of “main” roads on Chebeague is probably complete, though some reconstruction might take place for which standards might be needed. But any new subdivision like Division Point/Division Shores would probably require a “crossroad” like access road and several residential roads. Without road standards the Town would be unable to control the size or structural adequacy of these roads. If they became part of the Town-owned system of roads, as Division Point and Bar Point Roads have, this would be particularly important since it would be more costly for the Town to maintain inadequately designed roads.

The main and crossroads on Chebeague are all public – the Town fills their potholes, digs out their drainage ditches, maintains their culverts and plows them in the winter. Some “residential” roads are maintained and plowed by the Town, at least sometimes because they serve “a significant” number of year-round houses. But there is no set standard for how many year-round houses there must be for this to happen. Many other “residential” roads on Chebeague are not owned, maintained or plowed by the Town.

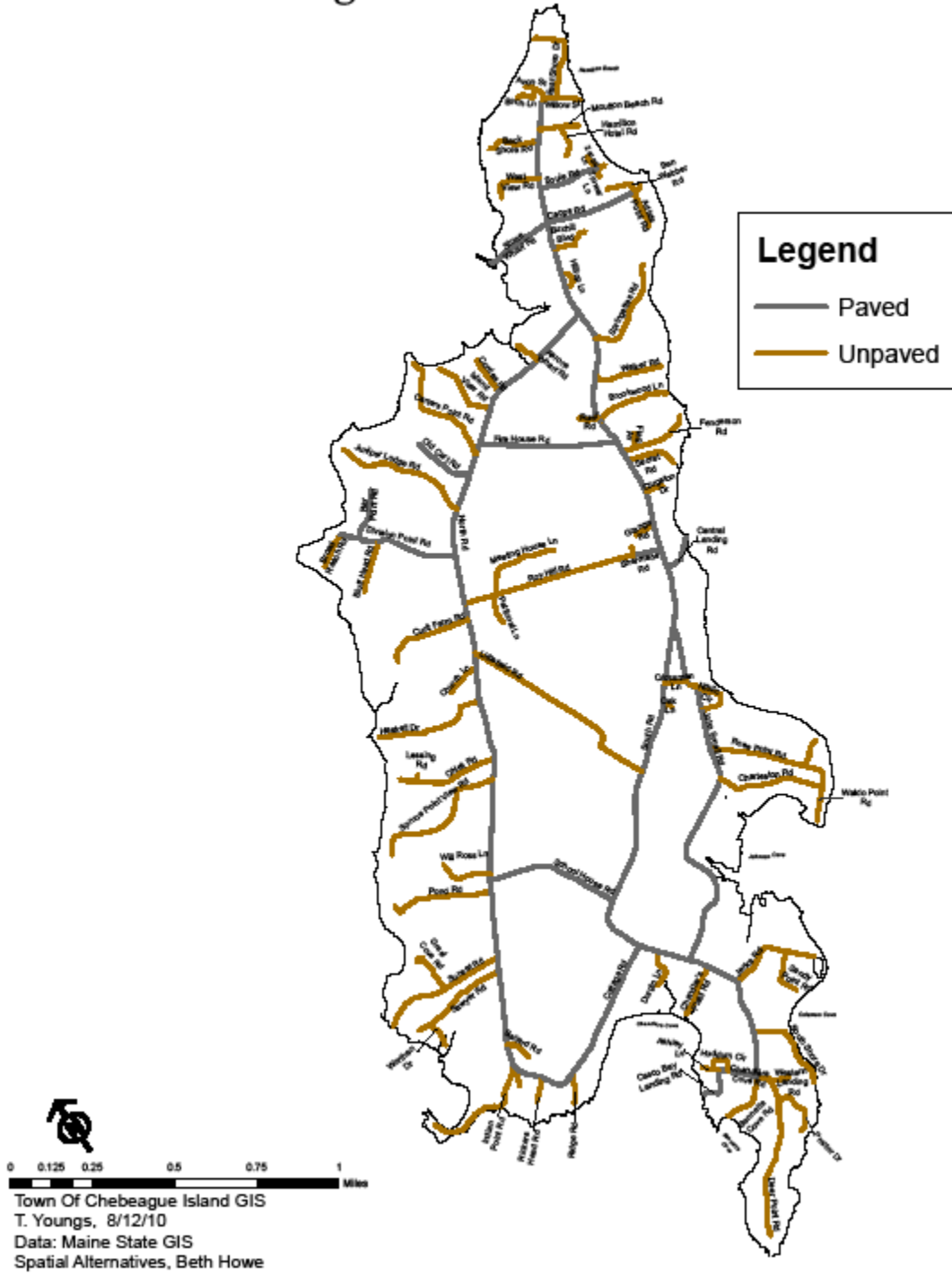
At present Chebeague has two kinds of road standards inherited from Cumberland. One set is overkill for a rural place like Chebeague. On the other hand, the other is exceptionally low.

The first covers new roads built in residential subdivisions, requiring that the minimum size for a public road ROW be 50 feet, with an asphalt pavement width of 20 feet, and 4 foot shoulders on each side. This is about the same size as an island main road rather than an island residential road.

The second standard covers private roads. This leaves the determination of the nature of these roads entirely to the property owner and the Town Code Enforcement Officer:

Map 3:

Town of Chebeague Road Surfaces



In the IR and IB zones, an applicant shall submit to the Code Enforcement Officer an application for a private right-of-way required to provide access to a structure located within that zone. The application shall specify the location of the proposed right-of-way, the proposed width, the materials to be utilized in the construction of the road, grades, provisions for drainage, and sight distances at any turning radius. The Code Enforcement Officer shall approve any plan that makes adequate provision for these items, provided that the Fire Chief approves the application for sufficiency of access for emergency vehicles.

The problem here is that these roads often serve sizeable parcels of land, and over the years the parcels are gradually subdivided further so that a single house becomes two or three or six. A driveway that may have been adequate for a single summer house is not adequate for, say, six houses, some of which are occupied year round. Not only is collective maintenance of the road difficult to organize, but roads that were built to minimal standards are more difficult to maintain. The most significant problem is that access for emergency vehicles may be quite difficult.

The result of these existing “standards” is that there are major differences between public and private roads on Chebeague. Some years ago, the residents of Deer Point Road petitioned the Town of Cumberland to take over and maintain/improve their road because of the poor condition of the road and the number of year-round residents living on it. But the Town refused because the road did not meet even the minimal standards for a public road on Chebeague, and of the cost involved in improving it would have been substantial.

Now that Chebeague is an independent town and has begun to focus on improving its road maintenance, these mainland expectations about island road standards, still written into our ordinances, can be revised so that they reflect the expectations of island residents.

Vinalhaven and Islesboro have separate but not very different standards for both public rights of way and private ones, but neither makes any distinction between “main” and “residential” roads. These and other ordinances could be sources for ideas if The Town of Chebeague Island decides to adopt road standards. As Vinalhaven’s Subdivision Ordinance says, its standards for both public and private roads “are subject to the overriding requirement that safe and convenient emergency vehicle access to all lots shall be provided and maintained.” Exactly how that is arrived at should be a matter for public discussion.

The Need for Gravel

As the sections on road conditions and road maintenance indicate, the critical elements of a good road are good drainage and sound construction. Building a road is not just a matter of clearing away trees and stumps, leveling the ground and paving it. Roads, whether paved or gravel, must be built up of layers of different sized gravel in a 15 to 20 inch base, carefully compacted to be strong but also to provide adequate drainage.

Chebeague has had a number of Town gravel pits in the past, and currently has a private one. However, these are mostly worked out, so that today, much of the gravel needed for roads is brought from the mainland by barge. There is periodic discussion of opening another Town gravel pit, and several sites have been suggested.

The gravel is a critical element of the island’s aquifer recharge process. It holds and filters water as it percolates down into the water table. If the gravel were not there the ground could not

perform this function as effectively. So the more gravel that is mined, the less effective the aquifer recharge area will be. In addition, the mining reduces the “overburden” – the amount of soil that covers the aquifer. With thinner soil, the chances are greater that pollution could penetrate into the aquifer.

This suggests that on an island with a sole source aquifer, the pros and cons of mining for gravel should be carefully weighed. Some Towns prohibit gravel mining in aquifer recharge areas. In the case of Chebeague, this has to be weighed against the widespread distribution of aquifer recharge/gravel and sandy soils, and the substantial cost of bringing gravel from the mainland. There is more discussion of this issue in the Chapter on Water Resources.

Safety

On Chebeague cars and other vehicles share the roads with pedestrians and bicyclists. In the summer there are many walkers and bike riders, often walking or riding abreast until they become aware that a car is approaching.

Island residents have traditionally taken a rather laid-back approach to traffic safety that relied on the lack of traffic and common sense to keep accidents from happening. Occasional auto accidents do happen, whether from drunken driving or inattention, but this does not seem to be a significant problem. Perhaps surprisingly there are also not many car-bike or car-pedestrian accidents either. Even so, every summer the obvious risk provokes comments about people walking in the middle of the road or bicyclists riding abreast.

“Solving” this problem, however, involves a considerable tradeoff. Creating sidewalks, even “freewalks” that are not higher than the road itself, would require widening roads and would cost money. So would allowing space for a bike lane. Spending money to widen roads would find little support. If the present informal island trails were formalized and maintained, it might be possible to designate some for biking, taking some of this traffic off the roads. However, just formalizing them as walking paths will be a significant task.

Since Chebeague became an independent town, a number of simple measures have been taken to make the roads safer. State DOT evaluated what the speed limit should be and that has now been posted so that tickets can be written. A few stop signs have been added to the two informal ones at Firehouse and Roy Hill Roads where they meet North Road. The orange cones at The Center seem to have a beneficial effect on the traffic speed and might be considered in a few other areas where people and cars gather.

Chebeague has fairly narrow, rural roads with drainage ditches rather than curb and gutter. Parking is not allowed “on the street” except along Wharf Road. This generally leaves the roads unobstructed for traffic. This is particularly necessary and enforced in the winter, when snow-plowing is necessary and the banks of snow at the sides of the roads leave even less room for parked cars. Off-street parking is required for businesses and generally there seems to be enough except sometimes at the Inn.

There are 56 street lights on Great Chebeague, primarily at road intersections¹⁷. On stretches of road that have no intersections, there are few lights. In four areas of the island these are areas that have no CMP poles at all -- most of Roy Hill Road, South Road between Littlefield and School House Roads, the middle of Littlefield Road and Cottage Road from its start at North Road to the Ridge Road.

This pattern of lights raises some interesting issues. On the safety side, bicyclists riding at night with no lights may have accidents and people walking in dark clothes are at risk. Street lights also aid in snow removal by increasing the visibility when moving snow away from intersections.

On the side of aesthetics, however, telephone poles can clutter up lovely views – people particularly say this about Roy Hill Road, but it is also especially true of Cottage Road. Also street lights add to light pollution. The dark night sky on the island is one of its pleasures. While timers and motion sensors have been suggested, it might be easier to have fewer lights and educate island people about using bike lights, wearing reflective clothes and carrying flashlights when they are out on the road at night.

Parking

Aside from private businesses, and town and non-profit buildings, the only place where there is any significant amount of public parking is at the two ferry wharves.

Paper Streets

The status of Chebeague's "paper streets" is more closely related to the goal of preserving open space than it is to the use and maintenance of ordinary roads.

When land is subdivided for development the individual or company that creates the subdivision lays out streets to provide access to it. These are often deeded to the Town. In some cases development of the subdivision never takes place or is much less than the developer hoped. This was true of a number of subdivisions on Chebeague at the turn of the 20th century. In other cases the road may be built initially but later is absorbed into adjoining private property. In either case, the roads go on existing on the Town's books as "paper streets". The Maine State Legislature has adopted a law requiring towns to review all their paper streets and decide whether they want to keep their claims or let them lapse. The Town has 20 years from 1997, to complete these reviews. These paper streets can be a valuable asset to Chebeague, in particular, since they are often located in subdivisions laid out on the shore.

Cumberland commissioned Donna Damon to study Chebeague's paper streets in detail. She made recommendations to the Cumberland Planning Board on the streets in the Nubble View and Waldo Point subdivisions. Other studies on Pleasant View Park, Merriam Point, Sunset Beach/Sunset Landing, and Division Point/Division shores still need to be done and their recommendations acted on by September 2017.

¹⁷ This does not include the modern streetlights that the State installed at the State pier at Chandler's Cove.

4.c. PUBLIC FACILITIES AND SERVICES

The Town of Chebeague Island is made up of a series of unconnected islands. Only Great Chebeague has any urban-style public facilities and services such as public roads or fire and rescue service. The other islands have entirely private services but with very small populations, their need for other public services other than fire and rescue, is minimal. And fire and rescue are ones that are difficult to provide from one island to another.

As Map 1 indicates, though public and non-profit facilities are located all over the island, the Town itself does have two consolidated sets of facilities, one at the Firehouse on North Road and the other around the Church which includes the Cemetery, the Transfer Station, the brush dump and the Town Garage.

This section deals with most of the Town operated services on Great Chebeague – fire and rescue, solid waste, public works, the Town office and the Cemetery. Roads were dealt with in the previous chapter, and public wharves are discussed as part of the Working Waterfront.

Many of the public facilities discussed here are shown as “activity centers” in the chapter on Future Land Use because their renovation or expansion might require the Town to apply for State or Federal funds. In addition some recommendations are made on issues related to these services that have implications for the physical planning of the island.

Goals and Recommendations

The Goal is: ADEQATE FIRE AND RESCUE SERVICE FOR RESIDENTS OF GREAT CHEBEAGUE ISLAND.

Recommendation: Develop, maintain and implement a practical and prudent capital equipment plan for the Fire and Rescue Departments

Recommendation: Road standards adopted by the Town must provide for adequate access by fire engines and the ambulance.

Recommendation: Provide additional hydrants on existing water sources; and additional fireponds should be added to serve areas now under-served.

The Goal is: REDUCED RISK OF WILD-FIRE ON THE ISLAND

Recommendation: Educate homeowners about wildfire risks and ways to lessen them.

The Goal is: EFFICIENT AND NON-POLLUTING CENTRAL COLLECTION AND COMPACTION OF ISLAND SOLID WASTE.

Recommendation: Develop/upgrade the general maintenance plan and schedule for the facility to keep it appropriately clean, sanitary and safe for users and staff. Such a plan could include mowing the capped landfill, monitoring the wells, providing year-round water supply, washing

down the facility, pumping the 1,500 gallon holding tank under the shed and having an eye-wash station.

Recommendation: Provide ongoing education and publicity on recycling and redemption, and continue hazardous waste collection.

Goal: REDUCED VOLUME OF WASTE MATERIAL

Recommendation: Explore the use of wood in the brush dump for biomass energy generation.

Recommendation: Explore the possibility of community composting.

The Goal is: A TOWN OFFICE THAT ALLOWS FOR EFFICIENT WORK, FACILITIES FOR PRIVATE MEETINGS AND ADEQUATE STORAGE OF TOWN RECORDS.

Recommendation: Identify needs and explore options for better meeting Town Office needs.

The Goal is: EFFECTIVE MAINTENANCE OF THE TOWN'S INFRASTRUCTURE.

Recommendation: Develop, maintain and implement a practical and prudent capital equipment plan for the Public Service crew.

Goal: ENSURE THAT THE CEMETERY PLAN IS ADEQUATE FOR ANOTHER 200 YEARS

Recommendation: The Cemetery Committee and the Town should develop a capital plan for the future maintenance and expansion of the cemetery. This should

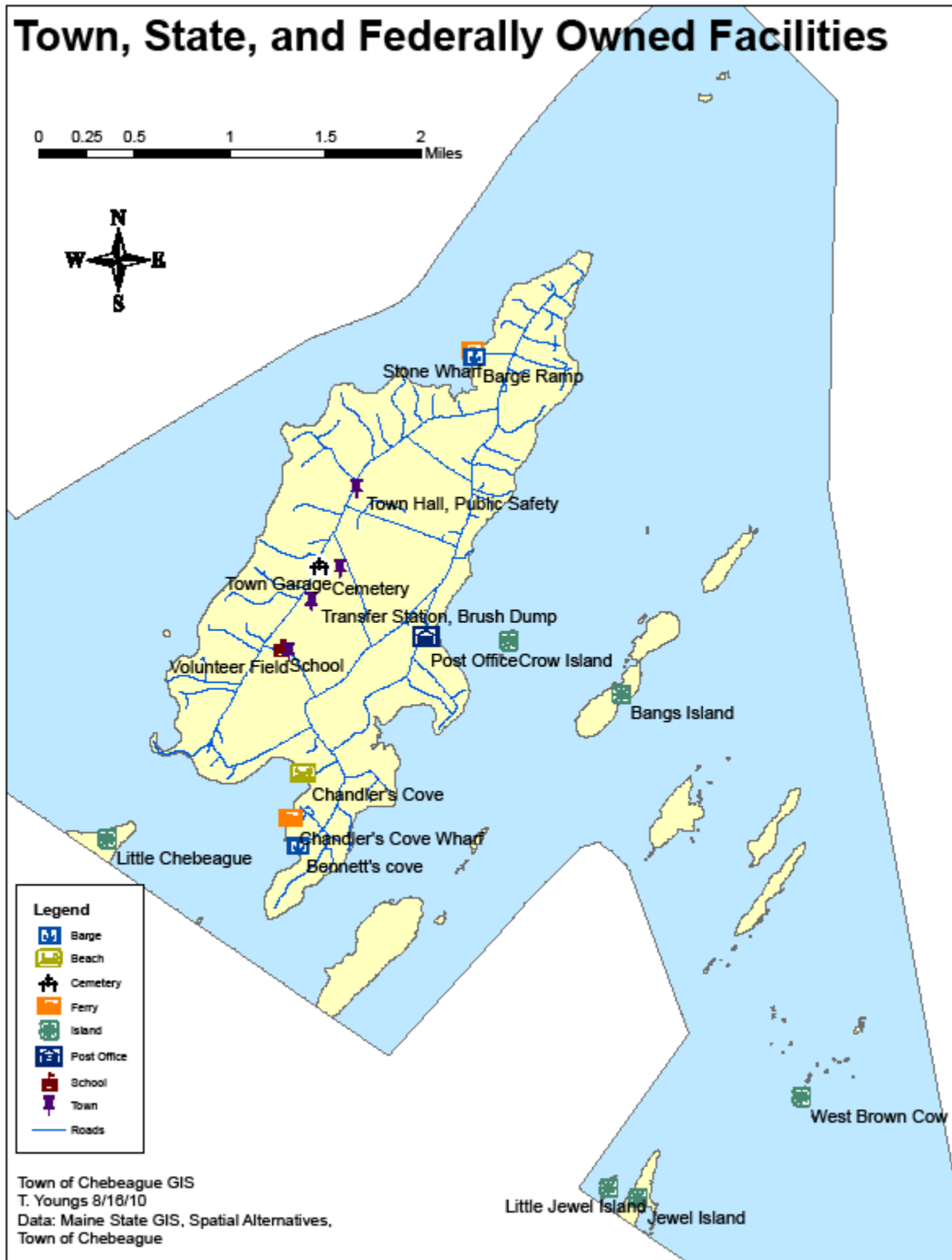
- Create an accurate map of the whole cemetery,
- Consider whether any new buildings will be needed.
- Consider other facilities such as running water at the western end.
- Consider whether to allow green burial options.
- Evaluate the need for changes in the landscaping.
- Evaluate the need for rehabilitation of gravestones.
- Define and/or transfer any land that will be needed by the Cemetery in the future.

Recommendation: The Town should secure the existing paper records, computerize the cemetery's data so that it can be accessed by both the Town office and the Cemetery Committee, and record important unwritten information, so that the transition from one Committee or administrator to the next can take place routinely.

Recommendation: The Town should develop a clear definition of the responsibilities of the volunteer Cemetery Committee, any paid employees and the Town staff.

The Goal is: FAST AND RELIABLE HIGH SPEED COMMUNICATIONS

Map 1:



Recommendation: The Town should work with vendors including chebeague.net to make major improvements to internet and cellphone service on the island.

The Goal is: EXPERTISE TO ACCESS AND CREATE TOWN GIS MAPS

Recommendation: Train Town staff and others in the community in the use of the Town's GIS resources.

Discussion

Fire and Rescue

The Town has a combined Fire and Rescue Department, with a common Chief, and Captains who head the two divisions. All the fire and rescue personnel are volunteers who are paid only for the time that they are out on calls or in training, though the officers receive nominal stipends as well. The Fire unit has two Lieutenants and the Rescue, one. In 2009 there were 24 fire fighters including three women. The Rescue unit had 12 members including 7 women. All fire and rescue personnel undergo continuous training throughout the year.

Physical Plant

The Department is housed in the Firehouse at 192 North Road. The location is fairly central on the island, minimizing response times. This 3-bay, 4,400 square foot, concrete-block building was built by Cumberland in the early 1980s. The roof was replaced in 2008. The most significant problems with the building are (1) that it is quite energy-inefficient. An Energy Block Grant application has been funded to do some of this work. (2) it lacks storage space for the equipment now used by the Department.

In the past the Firehouse has been used as a community shelter in times of emergency because it has a 50 Kilowatt generator, a kitchen and bathrooms. It has recently purchased a new generator that is easier to operate. However, serving as a shelter complicates the Department's ability to focus on responding to the emergency. In recent years the Hall has also acquired a generator and has served as an emergency shelter.

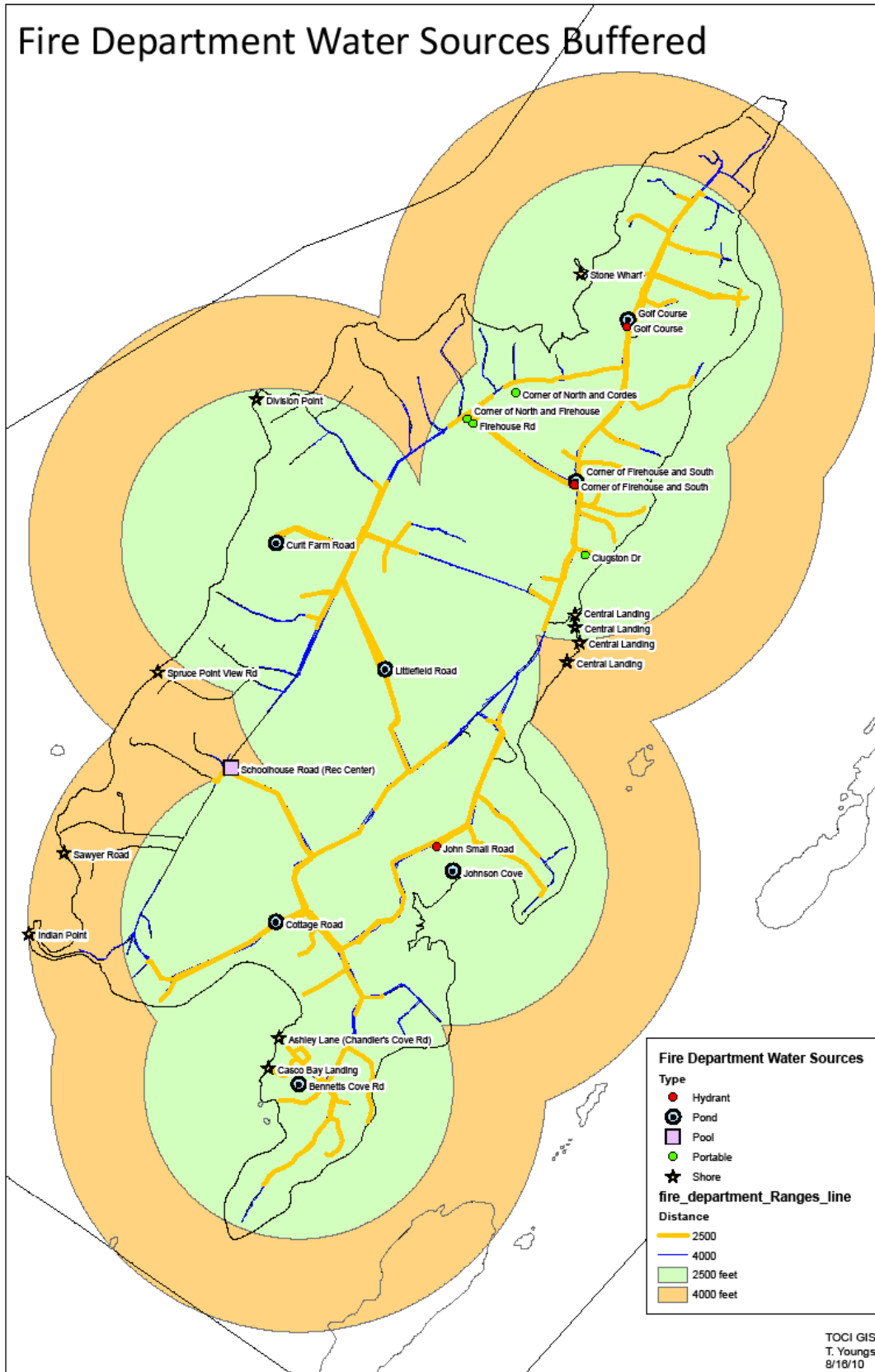
Fire-Fighting Operations

The Town has a contract with Cumberland County for fire and rescue dispatch services.

Because the island has no public water supply, water for fighting fires has to come either from ponds specifically created to supply water for fire-fighting or from other water sources. These are shown on Map 2. The Chebeague Inn is the only building on the island that has a sprinkler system. There are also two portable ponds, one with a 1000 gallon capacity and the other with 1500 gallons. Finally water can be drawn from the Bay at seven locations.

The National Fire Protection standards suggest a water source within 1000 feet of any fire, a standard that is most relevant for communities with public water supply and fire hydrants. The Chebeague Department has 4000 feet of water supply line. If the distance the water has to be pumped is more than 2500 feet then a second pumper is stationed between the water source and the fire to keep the pressure up.

Map 3:



The green and tan circles on Map 3 show the 2,500 and 4,000 foot distances from each on-land water source. But since fire hoses can't just be snaked through the woods, the gold and blue lines indicate the same distances measured along the Town's roads. This shows that most of the island is covered from some water source on the land. The areas that are not covered, at the extreme East End and in two sections along the north side of the island, could be covered by drawing from the Rec Center swimming pool or the Bay, or by setting up a portable pond to which water could be shuttled.

Not all water sources function year-round. Four of the fire ponds have hydrants that a fire truck can connect to. These deliver water from below the surface, so they function even if the surface is frozen. A fifth pond on Cottage Road is in the process of getting a hydrant. The Curit pond and Sanford's Pond have no hydrants, but the firemen can cut holes in the ice. Sanford's Pond is also drained in the summer. The Rec Center swimming pool, which is not shown as a fire pond on Map 3, can be used in the summer.

Adding to the number of fire ponds, and equipping all water sources with hydrants, especially in areas that currently are not close to one would provide additional insurance that the Fire Department will be able to fight any fire anywhere on the island. The section of the Plan on Clean Waters indicated that combination fire and retention ponds may be useful not only for firefighting but also for keeping sediment and pollutants out of Casco Bay. Any expansion in the number of fireponds should be accompanied by a plan and additional money for their maintenance.

Another issue related to firefighting operations is the ability of the fire trucks to reach all houses and fireponds on the island. Many of the island roads are private ones and their width and maintenance is quite varied. The Curit Farm Road firepond is not as accessible as others that have hydrants on main roads. When new road standards for the island are considered it is important to make accessibility by emergency vehicles an important criteria for both public and private roads.

Wild-Fire Hazard

Since 1983 there have been seven wildfires burning a total of 2.8 acres. In general, houses on great Chebeague are moderately at risk from wildfires. Some Town actions and some public education might reduce the existing risks or improve response to fires.

The primary sources of risk are several. One is the lack of "defensible space" around houses, meaning that houses are closely surrounded by trees, bushes, tall grass, leaf litter – materials that could easily burn and where burning embers could easily reach the house. On Chebeague, two thirds of the houses had less than 30 feet of defensible, open space around them, and only 6 percent had 70 or more feet of open space. Many houses are also surrounded by conifers which pose a greater risk than hardwood forest. Many buildings also have combustible sheathing, though most have fairly fire-proof roofs. Finally, in recent strong storms some areas of the island have had repeated spruce blow-downs, leaving tangles of dead timber.

Fighting a wild-fire on Chebeague is also potentially made more difficult by the many long, narrow, dead-end private roads and driveways on the island and the lack of access to less

developed areas. The lack of street signs and house numbers is sometimes a problem for both fire and rescue though both groups have maps that show the location and number of every building on the island.

Rescue

The Department has a 2003 Ford ambulance. The 12 rescue personnel provide the minimum staffing for the unit. Most have been trained during the past three years, so they are just gaining experience.

When a call for a rescue is made to 911, the Cumberland County Dispatch calls all rescue personnel on the island to respond. If the patient needs to be transported to the hospital, his or her condition is stabilized if necessary, and then s/he is taken to the Stone Wharf by the ambulance. At the Wharf a CTC captain and deckhand have also answered the rescue call by going to the boat. The patient, still on the stretcher, is put onto the boat and taken to the Cousins Island Wharf where the boat is met by a Yarmouth ambulance which transports the patient to Portland.

In unusual cases, when a patient's life depends on quicker action or higher levels of care than can be provided by the island personnel, the patient may be taken to the mainland by Life-Flight. The helicopter can land on the ballfield even at night, and the Department has a protocol for securing the area with fire engines.

Fire and Rescue Mutual Aid and Agreements with Other Organizations

An island community served only by passenger ferries has to be largely self-sufficient in its equipment. There is no quick and easy way to take trucks from one island to another or to and from the mainland. In addition, the equipment must be reliable since repairs are not easy or instant.

On the other hand, personnel can, in an emergency, come from or go to other islands or even communities on the mainland. The Department has mutual aid Memoranda of Understanding for firefighting with Long Island, Yarmouth, Freeport and Cumberland, and with the Chebeague Transportation Company to provide the transportation to carry this out.

The Rescue Unit has the closest regular working relationship with other towns and organizations. Every patient who is transported to a hospital on the mainland must be taken on the CTC ferry and met by an ambulance on the mainland. The primary agreement for mainland response is with Yarmouth Rescue, though other towns may sometimes respond under mutual aid agreements. The Rescue also has a MOU with CTC concerning transportation to Cousins Island which is provided at any hour of the day, free of charge.

Finally Chebeague has a MOU with the Town of Long Island to respond to Chebeague rescue calls on the outer islands. The reason for this is that the outer island are all located to the east or south of Great Chebeague. The CTC ferry is located on the north-west side of the island and cannot respond in a reasonable amount of time. Long Island, on the other hand, has a dedicated rescue boat moored on the north side of the island, with fairly direct access to Chebeague's outer islands.

Solid Waste

The Transfer Station on Chebeague, is the place where residents take their refuse for disposal, and where they meet and socialize with their friends. It is also the single most expensive facility/service operated by the Town of Chebeague Island. And the yearly cost has been rising.

The Transfer Station includes seven somewhat separate operations:

- The brush dump for organic yard waste, including wood but not stumps.

- The municipal waste compaction facility for general waste using two closed, roll-off, 50 cu. yard containers, each with a 2 cu. yard stationary compactor.

- A closed, roll-off 50 cu. yard container with compactor for the single-stream recycling.

- Two separate bins for the disposal of construction waste and metal

- An area for the disposal of appliances,

- Redemption operations, provided by Chedemption, a subsidiary of the non-profit Chebeague Island Council

- The collection of toxic waste such as batteries, fluorescent light bulbs, computers, and tires.

The Transfer Facility, itself, is a large metal shed open on two sides, with a concrete floor. It holds the three compaction bins, the two open bins and a small building used as an office by the Transfer Station Attendant. In addition outside the shed there is a small shed that is used for the bottle redemption operation. There is electric power which is needed to run the compactors; but there is no running water or bathroom. There is a 1500 gallon tank underneath to collect runoff water from the concrete slab. The site is surrounded by a chain link fence with a gate to the entrance road and one to the brush dump, beyond. There is a berm with trees that separates the Transfer Station from the cemetery. Sometimes, however, when the Transfer Station is open at a time when a funeral is occurring, the Transfer Station noise can be intrusive. Because of this it is sometimes closed during funerals.

The brush dump is in a former gravel pit. It is separated into areas used for incoming brush and logs, a pile of chipped brush and wood, and an area for the storage of dirt dug up by the Town in its normal operations. A gravel road runs through it, connecting the Transfer Station to the Town Garage on Littlefield Road.

While the space is generally adequate, it could barely accommodate the amount of brush that was brought in after the Patriot's Day storm in 2007. For \$7 – 8,000 the Town hires a huge chipper to be brought out once a year to chip up all the wood and brush that has been brought in. The volume of chips can get quite large and it would be useful to find more ways to use them. Now they are primarily used by residents and professional landscapers as mulch. However there is a possibility that, using a different chipper, they would be suitable for fuel for a high-efficiency heating system.

At the time of the 2006-07 transition to the new Town, Cumberland said that the 2006 municipal waste (not including construction debris or recycling) was 275 tons. In 2008 a total of 470 tons of solid waste was transported to the mainland by Pine Tree Waste. An estimated 19 tons of redeemable bottles and cans was also sent by Chedemption to the mainland for free on the Casco Bay Lines. So the total was 489 tons. Of the solid waste handled by Pine Tree, almost half (48

percent or 225.7 tons) was general “municipal waste”, while just over a third (34 percent) was construction debris and 16 percent was recycled materials.

Almost half (47 percent) of the Town’s share of the waste comes in the four months between June and September, rising to almost 80 tons in the month of August alone. Chedemption’s yearly pattern is even more extreme, with 71 percent of the bottles and cans being brought in during those four months. This makes clear that, as with so many other aspects of life on Chebeague, the Transfer Station must be capable of handling more than 90 tons of solid waste per month even if the actual average monthly amount is less than half of that (40.75 tons).

Chebeague has contracted with Pine Tree Waste, a division of Cassella. Pine Tree’s truck(s) brings out empty containers and exchange them for the full ones which they take back to Portland. The barging is done by Lionel Plante. Despite an original effort to have the barging go through the Stone Wharf, Plante charges \$600 per load from the Stone Wharf and \$500 from Bennett Cove which is more convenient to Portland and less congested. This has created problems discussed in the chapter on the Working Waterfront. In 2010 a compactor was added for the single-stream recycling which is expected to somewhat reduce the amount of barging required.

Chedemption

Chedemption was formed to provide a way for people to bring redeemable bottles and cans to the Transfer Station but not to lose the money that could be gotten back for them. It is organized and run by the Chebeague Island Council, an island non-profit and staffed by all the island non-profits which divide the money generated.

The volume coming into Chedemption has remained quite stable over the years since it was fully operational. Yearly revenue has averaged \$6,939 with expenses averaging \$483. Chedemption has the capacity to continue to operate at this level as long as it is possible to recruit 70 volunteers over the course of the year.

The Town Office

Chebeague has only had its own Town Office for two years since it became an independent town. It is a three-room area at the west end of the Public Safety Building.

The result has been adequate to get started in, but it is cramped, lacking in any privacy and very noisy. The two Town Clerks serve customers at a counter in the first room. The Harbormaster, Assessor and Code Enforcement officer share two desks in the third room. The Town Administrator uses a small office in between. Anyone walking from the room with the counter to talk to one of the Town staff in the back room has to walk through the Administrator’s office. When there are 6 or 7 people using the space, the noise is quite distracting.

This problem is mitigated by the fact that the Office is closed to the public one full day and two half days each week and only two of the people using the office are full-time employees. It is possible to find the Town Office occupied and quiet – but not often. There is also little space left over for the safe, or for storage for files, supplies or maps which are now simply being piled on the floor, table and filing cabinets.

Public Service

The Public Service Department maintains the Town's infrastructure including its roads, culverts, ditches, wharf, floats, transfer station and the various pieces of mechanical equipment. The Town Garage and a salt shed and diesel fuel storage tank, were built in 1995 on the large parcel of land that includes the closed landfill, the Transfer Station and the brush dump.

The Public Service crew is made up of two full-time employees, supervised by the Town Administrator.

The garage is a prefabricated metal industrial structure, 60' x 60' set on a concrete slab, with unobstructed overall eave height of 20'. The insulation is R 19 (6 inches) in the walls and the roof, with 4 inches of insulation in the interior walls. It is heated by a waste oil furnace, supplemented with electric baseboard heat in the restroom and office. Water is heated with electricity.

The salt shed is conventional construction on a concrete slab. It fully encloses the salt.

The tank for storing diesel fuel is double walled and is set in a high-walled containment tank.

The Public Service Department operates:

2003 Chevrolet 1-ton dump truck. To be replaced in 2013.	Ford Backhoe/loader, four wheel drive.
2000 dump truck with hi-lift	Bulldozer
1981 dump truck. To be replaced in 2015.	Road grader
1986 GMC Boom truck for moving floats	Trailer
Blade plow	Screening plant
Hopper sander	3000 Gal skid tank
Swenson sander	Air compressor
X blade snow plow	Plasma cutting unit
	High pressure washer
	Diesel pump

The Cemetery

The Chebeague Cemetery is the only active cemetery on the island. Though it is located next to the Chebeague United Methodist Church, it belongs to the Town and is administered by the Town's standing Cemetery Committee. It is one of the records of Chebeague's history. Its six acres is part a large piece of Town property that since World War II was used for the dump, and then the Transfer Station, the brush dump and the Town Garage.

Since at least the early 20th century, the cemetery has served both year-round and summer families. Since in many families, earlier generations were year-round residents and in later ones have become summer people, or vice versa, the distinction is somewhat academic. In addition there are a group of plots owned by people from Long Island, though it now has a cemetery of its own.

The cemetery has grown over the years. The initial parcel was extended to the east and south in the late 19th century. Since that time it has been extended to the west in two sections. The most recent addition was designed in 1990 by Frank Cofran, a summer resident. A rough estimate suggests that there are over 3430 individual lots in the cemetery now. Of course the potential number of lots and the number actually occupied are two quite different things. Normally families buy plots and fill them over several generations. Given the nature of the Chebeague Cemetery's records, it is impossible to know how many have been used and how many remain empty.

Since 1990 about 90 lots in the newest section have been sold – an average rate of almost 2 per year. At present there are about 300 lots for sale which would suggest that the cemetery will not need to be enlarged for many years. Since the cemetery is part of a larger Town-owned parcel, there is some room for expansion. At the western end, the cemetery is already hemmed in by the Transfer Station to the south and a private lot to the west. However, along the southern boundary at the eastern end, there is room for expansion back towards the brush dump, though this area also serves as the buffer to the brush dump. While the Cemetery Committee does not see a need for expanding the cemetery soon, they would like to formalize with the Town the area for future expansion.

It is not ideal to have the cemetery next to the Transfer Station which is noisy and has industrial-type lighting. However, the buffer of trees between the two has grown up over the years, and the Town has been willing to close the Transfer Station at times when a funeral is being held in that area. When the cemetery expands back toward the brush dump, this same issue will need to be dealt with.

Cemetery Administration

There has probably been little change in the cemetery administration over the past 50 years. It has been run by Dick and Dianne Calder since 1988, and by Ethel Ross for many years before that. The records are handwritten in a series of spiral notebooks for accounting, manila folders with copies of deeds from Cumberland, plus a three-ring binder of other deeds. There are three maps at different scales of the old, intermediate and new sections. These are all kept in the Calder's house. Much of the other information about the cemetery is in Dick and Dianne's heads and they are getting older. This is an administrative pattern characteristic of a small town, but it is a fragile system – subject to the loss of critical information from death or fire or having the records taken to the Transfer Station by accident.

Power and Communications

Power

There has been a great deal of public interest in alternative sources of power on Chebeague because of the wind turbine project on Vinalhaven. In the planning survey about a third of all the respondents wrote about their interest in developing some form of alternative power for the island. Many people suggested a variety of possibilities – wind, solar, biomass, tidal and geothermal energy. The largest proportion (24 percent) were interested in wind energy.

Electricity: three phase power is supplied from both South Portland and Yarmouth. Almost all the service is above ground. On a heavily wooded island, this means that the island experiences

a fair number of power outages, but residents are generally prepared, and there are community shelters for periods of extended outage. CMP keeps the trees next to power lines trimmed. CMP also has a special crew with a boat that serves the islands and they come as soon as they can when there are problems.

Communications

Improved communication technologies were also a major interest to people who answered the planning survey. Eighteen percent said they wanted better internet service, while 6 percent wanted cable service to the island. On the other side, 8 percent of respondents said that Chebeague.net is doing a good job. Similarly, 16 percent of respondents said they hoped the island could have better cell phone service. Only two people said explicitly that they would not like to see a cell phone tower on the island.

Chebeague.net is the local provider of high-speed internet service. It is adequate for many customers, including some telecommuters, but when there are many users in the summer, it can be erratic, and not all areas of the island have easy reception from its towers. Some island residents who could work from home if the bandwidth were greater, cannot do so now. Chebeague.net has been applying for grants to upgrade its service but, so far, has been unsuccessful.

Other Utilities

No cell towers

No cable

Telephone provides only telephone service; no internet by phone.

Satellite TV: moderately consistent reception.

4.d. Fiscal Capacity and Capital Investment Planning

The underlying fundamentals of the Town of Chebeague Island's fiscal capacity are good since the Town has high-value, shore-front property. On the other side, there are factors that keep Town expenditure down. Many year-round residents have modest to low incomes – the median income in the 2000 Census was \$32,188. In addition, the Town had a debt in 2007 of \$4,800,000 as a result of secession.

The 2009 Audit by Berry, Talbot and Royer indicates that on June 30 the Town had capital assets, net of depreciation, of \$3,018,045 and total assets of \$5,330,649, compared with liabilities, including debt, of \$4,517,515.

Goal: LONG-TERM CAPITAL PLANNING FOR BOTH EXPECTED AND UNANTICIPATED PROJECTS, EQUIPMENT AND FACILITIES, IN ORDER TO AVOID BORROWING AND BONDING.

Recommendation: The Town should work out realistic capital budget priorities, reserves and expenditure schedules.

Recommendation: The Town should identify and take advantage of non-Town funding sources for capital projects.

Discussion

Revenues and Expenditures

The Town of Chebeague Island only came into being in July 2007. Revenues and expenditures for two years are shown in Tables 1 and 2. The first year's budget was created by a Transition Committee, with help from Cumberland, and was everyone's best guess about what it would cost the new town to operate.

A second year of experience has shifted both the expenditure and revenue pictures a bit, but not dramatically except in the case of fixed charges for debt.

There are three sources of debt, all resulting from secession. A \$1.3 million bond issue reimburses the Town of Cumberland for all the capital items on the island at the time of secession, for Chebeague's share of the Town's debt incurred while Chebeague was part of the Town and for a new Chebeague fire truck. Another \$1.7 million bond issue does the same for MSAD 51. A third bond issue for \$1.8 million pays for the education of Chebeague's children in the MSAD 51 schools for the seven years after secession, to 2014.

The debt payment for 2007-2008 was misleading because the first bond payment was not made until November 2008 and was only \$162,438. However, the 2008-2009 debt service of \$600,828 will be fairly typical until 2014 when the 7 year payment for schooling ends. At that point the debt service will decrease to about \$221,000 per year. However, the tax revenue released from this debt service will then be needed to pay tuition for students in school on the mainland.

Table 1: Town of Chebeague Island Revenues¹⁸

Revenues	2007-2008	2008-2009
Property Taxes	\$2,318,325	\$2,372,612
Excise Taxes	89,106	88,816
Intergovernmental Transfers	236,222	217,107
Licenses, Permits and Fees	53,775	56,593
Interest	18,833	12,551
Other	18,633	-----
Total	2,734,894	2,749,509

Table 2: Town of Chebeague Island Expenditures

Expenditures	2007-2008	2008-2009
General Government	402,873	\$327,370
Public Safety	141,424	161,587
Public Works	189,082	192,502
Education	846,551	814,568
Health, Sanitation and Welfare	140,295	143,035
Cultural and Recreation	99,600	97,500
Fixed Charges	162,438	746,854
Capital Investment	156,000	123,000
Total	\$2,138,263	\$2,606,416

In addition to the \$1.3 million lump sum payment to the Town of Cumberland, the Town of Chebeague Island also contributes 50 percent of the tax revenue from the outer islands to Cumberland for 50 years.

Tax Base and Tax Rate

Table 3 shows the tax base for the Town during the two years it has been in existence. The table also gives the tax rates.

The Town Assessor expects that the tax base will be fairly stable over the next ten years. The \$2.7 million increase between 2008 and 2009 resulted from several one-time revisions and collections done by the new Assessor. Since most of the property is year-round and summer

Table 3: Valuation and Tax Rates

Valuation	2008	2009
Real Property	\$113,325,950	\$116,004,688
Personal Property	236,500	235,600
Tax Rate	20.49/thousand	20.13/thousand

¹⁸ Expenditures and revenues are taken from the Town's audits.

houses, it is subject to fluctuations in the housing market. It is unclear whether the collapse of the housing boom has generally reduced land and housing values. It has resulted in a substantial decline in new construction.

The Town has not had a revaluation since 2003 when it was part of Cumberland. The State estimates that its assessments are 65-70 % of full value. The Town is putting aside money in the capital budget to pay for a new revaluation study.

The Town has a number of properties in the State Tree Growth and Open Space programs, as well as land in conservation easements and non-profits like the Church. However these do not have a significant effect on taxes.

The Town of Chebeague Island is committed to keeping taxes as low as is consistent with meeting public needs, and increasing them as little as possible over the coming ten years. The one-time growth in the tax base between 2008 and 2009 was sufficient to lower the tax rate. But the Town's experience is too limited to know what the future will bring.

Revenues from new development have probably covered the need for additional services created by that development in the past but since Chebeague was part of Cumberland, this was not kept track of separately. However, the way this has to be looked at on Chebeague is somewhat different than in many other communities. Meeting the service need is less a matter of extending utilities or roads and more an issue of having the service capacity to meet the maximum demand in the summer for such things as solid waste disposal, rescue, police and services provided by the Town Clerk and the Harbormaster.

The demographic projections indicate an increase of about 33 year-round and perhaps 100 summer people over the next ten years. This increase is probably not enough to require enlargement of Town facilities such as the fire house or the transfer station.

However, there are a number of possible new studies and projects, discussed in this Plan and are largely the result of the islands becoming an independent town. The possible need for an expanded Town Office, or the study for and possible construction of a new ferry terminal with more parking or a ferry-bus service are cases in point.

There are also several inheritances from the Town of Cumberland that may require capital expenditures earlier than might be anticipated. Already the Town has had to borrow money to replace its backhoe and one of the fire trucks because of their age. More significantly, the backlog in road maintenance is so significant that some roads may need to be rebuilt. As present secession-related debt is retired, road reconstruction alone could absorb freed-up tax revenues for some time.

Because the Town begins its life with a large debt to its previous town and school district, many people in the community think that it should not be adding to that debt for capital expenditures that could be funded through the capital budget. The Planning Committee urges the Selectmen and the Town Meeting to avoid getting into the habit of borrowing money by doing realistic capital investment planning.

Capital Investments

A capital budget and six-year Capital Improvement and Management Plan are intended to identify, prioritize, plan for, and schedule large expenditures on assets or infrastructure that will last a significant length of time – things like purchase of land, construction or major repairs of buildings roads or piers, and purchase of fire trucks and other major equipment. These items can be financed over a period of time, either by putting money aside in the capital budget over a period of years until the needed amount is available, or they can be paid for by issuing bonds which are then paid back over a period of years. Sometimes capital items are paid for with grant money such as the MDOT grant to rebuild the wharf turn-around on Cousins Island.

In the transition to independence The Town of Chebeague Island acquired the existing Town and School infrastructure and, as indicated above, undertook \$4.8 million in debt to reimburse the Town of Cumberland and SAD 51. Since the Town starts its life with such a large debt, it seemed initially that the Town would not be borrowing additional money until these debts were paid off. However, over the past two years Town Meeting has agreed to borrow additional money for replacement of the backhoe and fire truck.

The Town of Chebeague Island did not inherit any systematic capital improvement program. In 2007-08 and 2008-09 Town moneys were put into a capital account to cover capital items that were obviously on the horizon such as vehicles, building repairs, fire pond dredging, and wharf, float and boat ramp repairs.

At the beginning of the budgeting process in 2009 a draft Capital Improvement and Maintenance Plan was developed by the Town Administrator (attached at the end of this chapter, page 211). It covers capital items that cost more than \$7,500 and are expected to last longer than five years. It extends over a six-year period and covers:

- Harbor and waterfront improvements: Dredging, maintenance of the Stone Wharf, floats at several piers, and the boats of the Harbormaster and Shellfish Warden
- Public Safety: Fire and Rescue facilities and equipment. Not police.
- General Government Reserves: A revaluation Study, building facilities and administrative vehicles.
- Public Service: Road repairs and public works equipment.
- Public Easements and drainage-ways

The draft CIMP was not adopted by the Selectmen, perhaps because of disagreement about exactly what data it should be based on. However, as part of the yearly budget cycle, the Selectmen do develop a capital budget and a 6-year estimate of future capital expenditures based on the definition of a capital expenditure in the draft (example attached p. 223). It is expected that most capital investments will be funded by yearly contributions to the Capital Investment Reserve Fund.

In 2010 a proposal was made to adopt an ordinance to create a three-member Capital Planning and Finance Committee to help the Selectmen develop the capital budget by doing research and analysis on infrastructure needs, developing long-term capital expenditure plans and exploring how expenditures might be financed.

The Town has no impact fee ordinance.

School and County Obligations

Payments to schools on the mainland and to the county do not have an adverse effect on the Town's ability to finance capital investments.

State Spending Limitations

The LD 1 limits have not been surpassed.

Possible Capital Budget Items in this Plan

Major Planning and Ordinance development projects:

- Land Use Ordinances
- A possible aquifer protection ordinance
- Survey of Septic systems
- Open space and trails plan
 - Funds for research, surveying and legal services on paper streets
- Comprehensive plan for Town waters

Recommended studies of possible capital projects:

- Sunset Landing wharf and parking
- Internet improvements and cell phone service

Possible Capital Projects

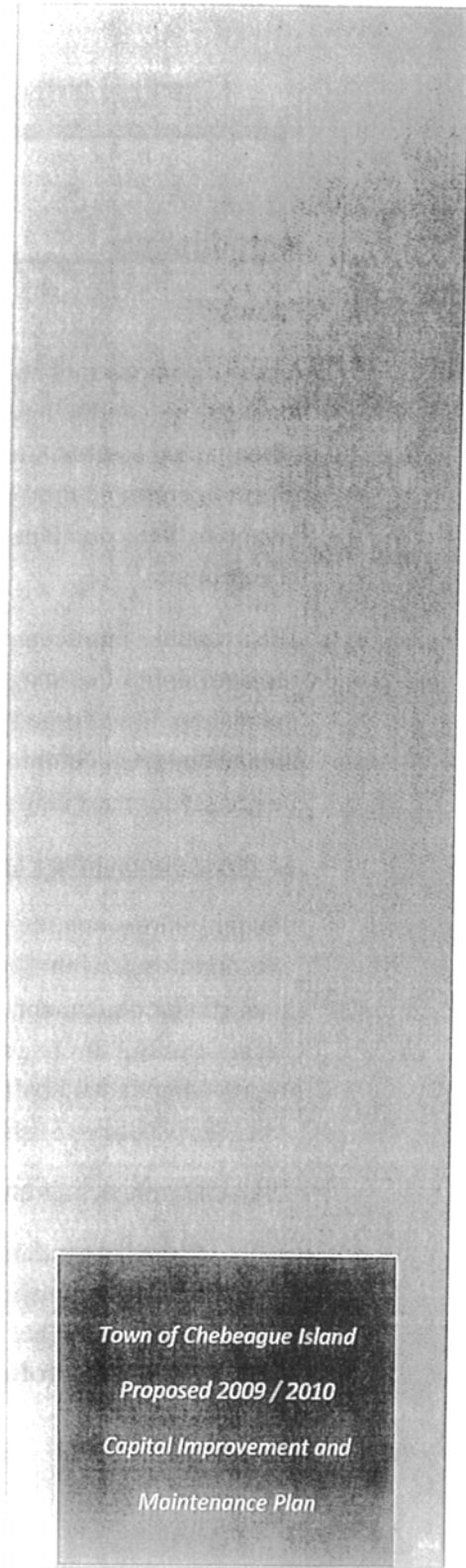
- Road improvement and reconstruction according to existing plan
- Maintenance of wharves
- Purchase of development rights in the rural area
- Purchase land for affordable housing
- Town office expansion

Sharing of Capital Investments

In general, the Town of Chebeague Island's status as a collection of unconnected islands limits the possibilities for sharing of capital investments with other units of government.

The primary exception is that Chebeague does use wharf and parking areas on the mainland for the operation of the CTC. The Town of Chebeague Island shares with the Town of Yarmouth the cost of maintaining and reconstructing the wharf at Cousins Island used by the CTC. State DOT has also provided money for capital improvements at this wharf, specifically the purchase of the Blanchard parking lot and the reconstruction of the road to and the turn-around at the Cousins Island Wharf.

In addition the State also builds and maintains the pier at Chandler's Cove for the Casco Bay Lines. The Town has an agreement with the State to have a float at this pier.



*Town of Chebeague Island
Proposed 2009 / 2010
Capital Improvement and
Maintenance Plan*

Capital Improvement and Maintenance Plan

Introduction

Purpose.

A capital improvement plan is a valuable and critical planning tool that is used to manage the continuing need to replace or add equipment, buildings, land and other capital assets. It is also a record of what assets are owned or under some form of control by the Town. The purpose of this plan is to provide a method of planning that combines the needs of all departments and units of our local government.

This capital improvement plan not only addresses the maintenance and replacement of existing assets, it also looks ahead for future needs, projects and mandates. The desired product is a guide to be used in preparing comprehensive annual budgets. Before and after each annual budget is adopted, the plan should be revised for use in the next annual budget preparation.

A. Description of the Capital Improvement and Maintenance Plan

Capital improvements programming involves the planning of long-term capital expenditures by the Town. Capital expenditures include funds for buildings, lands, major equipment, and other commodities that are of significant value and have a useful life of several years. For Chebeague Island's purposes, a capital improvement shall be defined as a capital expenditure that is more than \$7,500 and that will have a useful life of 5 years or greater.

The CIMP provides a framework for the following administrative functions:

1. Estimating capital requirements.
2. Scheduling projects over fixed periods with appropriate planning and implementation.
3. Prioritization of capital improvements.

4. Developing a financing plan for proposed projects.
5. Coordination of activities between departments in meeting project schedules.
6. Monitoring and evaluating the progress of capital improvements.
7. Informing the public of projected capital improvements.

B. Benefits of the Capital Improvement and Maintenance Plan

Considerable benefits may be derived from a systematic approach to the programming of capital projects. These include:

1. Focusing attention on community goals, needs and capabilities.
2. Achieving optimum use of the taxpayer's dollar.
3. Guiding future growth and development.
4. Serving wider community interests over localized ones.
5. More efficient governmental administration.
6. Maintaining a sound and stable financial program.
7. Focusing attention on existing infrastructure conditions.
8. Enhancing opportunities for participation in federal and state funding programs.

C. Consideration in Adopting the CIMP

There are a variety of internal and external factors that may influence CIMP decisions. These factors include:

1. **Maintenance of Existing Facilities** - Chebeague Island already has considerable investment in its existing roads, harbor infrastructure, piers, buildings, etc. With limited financial resources to expand the existing capital stock, priority may be given to keeping existing facilities in good working condition.
2. **Availability of State and Federal Funding** - The decreasing availability of such revenues is cause for caution on becoming overly dependent on them for CIMP decisions in general, and may indicate the need for prioritizing those programs, which are still eligible.

3. **State and Federal Mandates** - State and Federal mandates may require the renovation of existing facilities or the construction of new facilities or the procurement of new equipment.
4. **Unforeseen Circumstances** - Even the best planning cannot anticipate future, unforeseen circumstances. These circumstances may have either a negative or positive consequences.

D. Continuous Maintenance and Development

The Town Administrator, with input from appointed officials, employees and board/committee/commission leaders will be responsible for updating the CIMP on an annual basis. Once the plan has been updated, it shall be presented to the Chebeague Island Board of Selectmen for their review, input and revision, and ultimately it shall be incorporated into the proposed annual budget.

E. Integration with GASB 34

This capital improvement and maintenance plan is based upon the inventory of assets required by the Government Accounting Standards Board (GASB) 34. GASB 34 requires the town to have a detailed inventory of its entire infrastructure. Infrastructure, by way of example, includes roads, bridges, drains, culverts and if applicable, water distributions and sewer collection systems.

For the purposes of the Capital Improvement and Maintenance Plan, the components of the plan have been divided into several separate areas. These include:

1. Harbor and Waterfront
2. Public Safety
3. General Government Reserves
4. Public Works
5. Easements and Drainage ways

At this time, this plan does not address educational facilities, as the School Department may be working to establish a capital plan of their own.

The following narratives describe the various components and the decision making process that goes into evaluating each area.

1. **Harbor and Waterfront**

The Harbor and waterfront is an integral part of the Town of Chebeague Island. While the town is much more than simply a waterfront area, this is the area that is the basis for much of the town's commerce. Commercial fisheries and commuters alike use the facilities on the waterfront, and must be maintained in a safe and effective manner. The Stone Pier area is also the most visible facility on the island. Virtually every person who visits, works or lives on Chebeague Island passes through this area several times a week, if not daily. The capital items that make up this component include, but are not limited to:

- A. **Dredging** - Last conducted approximately 2004-2005, the area adjacent to the Stone Pier and Wharf must be dredged on occasion to facilitate the ability of the Chebeague Transportation Company to

operate their passenger vessels. Commercial fisheries would also be drastically impacted by the Town's failure to adequately provide for their ability to moor, turn and tie up and the facility. Environmental permitting restrictions seem to mandate that dredging operations be undertaken within 10 years of the previous dredging operation. Failure to do so would lead to very severe restrictions on the permitting process, and would increase the cost of such an undertaking by large magnitudes.

- B. **Wharf Infrastructure Maintenance** - The wooden wharf structure, the concrete boat launch, the various retaining walls and pavement, must be maintained in a safe and efficient manner. With use only to increase, the facilities will need constant observation to provide safety, movement of vehicles, pedestrians and use by recreational boaters. Anyone who observes the area will recognize that the concrete planking on the boat launch must be replaced as soon as possible. Many of the large granite blocks that are integral to the retaining walls have moved and need to be replaced to their structural position. Areas of the parking area near the end of the structure are in need of fill. The entire area is in need of bituminous overlay. Designated parking areas need to be re-established for handicapped passengers and for school bus and taxi parking.
- C. **Floats and Ramps** - must be constantly maintained in order to allow for safety and operational convenience. The floats must be installed and removed in a timely manner to both protect the investment in the structures and equipment AND to support the commercial and recreational fishermen and boaters that utilize the facilities.
- D. **Harbor Master / Shellfish Warden vessel and equipment**

Presently this department operates with a 23' harbor master patrol vessel with motor and trailer, and a smaller utility punt with outboard.

The present equipment, with adequate maintenance, will provide many more years of service to the community.

2. **Public Safety** - The Chebeague Island Fire and EMS Department presently operates in crowded facilities with minimal meeting and storage facilities. Though left with equipment and vehicles that operate well, the age of some of the vehicles will become an issue in the future as the regulations regarding firefighters and the equipment that they use change to meet changing philosophies. Firefighting vehicles, though not strained by excessive mileage, do require constant maintenance and updating. Various single pieces of equipment are expensive and therefore the Thermal Imaging Camera is included in this area. The Fire Department also maintains several fire ponds that must be occasionally dredged and cleaned to keep free of growth and sedimentation.
3. **General Government Reserves** - This component includes several areas, including the following:
 - A. **Building Facilities** - The present Municipal Office, though adequate for the startup of the community over a year ago, will need to be expanded for meeting space and efficiency of the employees in the certain future. Though this plan and its proposed funding do not address this, it is an area that must be studied and addressed in the near future. The present building facilities do not anticipate the accommodation of Police Services or the housing for a police officer. While the present Municipal Building addresses short term administrative needs, as the Town continues to operate the area assigned to storage of documents, vital records and operating paperwork will be woefully inadequate.
 - B. **Revaluation Services** - As with all Maine communities, properties must be assessed at just value in accordance with the taxation statutes of the State of Maine. This is a costly and time consuming undertaking and is best budgeted for as a capital outlay.

- C. **Administrative Vehicles** - As part of its employment contracts and agreements, and for general convenience and efficient operations, the Town must provide various vehicles for its employees that do not live on the Island. Those requiring some form of transportation include the Town Administrator, Code Enforcement Officer, Tax Assessor and Health Officer. While it is certain that to be efficient for transportation on the island, a vehicle need not be new, but it must be safe and efficient. The contract police officer also requires transportation during the non-summer months when a police cruiser is provided.
4. **Public Works** - The Chebeague Island Public Works department operates 2 dump/plow vehicles, 1 one-ton utility plow vehicle, a boom truck for the removal and placement of floats, a backhoe/loader for ditching and loading trucks, an aged bulldozer and small, but adequate road grader. There is an immediate need for the one-ton utility vehicle to be replaced with one designed for low speed, low mileage use on the island. The department also has a small screening plant that is in good condition and will provide good service.

The road infrastructure within the Town of Chebeague Island is in poor condition. Roadways are awash in pot holes, and pavement is crumbling. The gravel roads have poor surfaces that can not hold smooth when they are graded. The cost of reconstructing these roadways is enormous. At present funding levels, it will take many years before a major road project to bring these roadways to any modern standard can be undertaken. Funding of this area is extremely important to the viability of the island. The roadways do not necessarily need to be brought to pavement, but could instead be returned to well graveled and graded as an alternative that would be less costly.

The other area of concern is an economical and lasting source of gravel and sand. Consideration should be given to the licensing of a small gravel extraction area (under 5 acres).

5. Easements and Drainage ways - Chebeague Island is riddled with small drainage areas that pass from, to and under town and private ways and make their way to the ocean where, inevitably, erosion occurs. Some erosion is at the shore, some at roadways, and some in areas very close to year round and seasonal dwellings. It would seem important to develop a plan to address and prioritize these drainage ways, and to develop a plan to improve and maintain them. This will require research, survey work, ground work, and in some cases, engineering work will be required to size and design drainage structures.

The following is the proposed Capital Improvement and Maintenance Program for the future of the Town of Chebeague Island. It is meant as a guide, and should be revised annually to better address a changing community.

2009 / 2010 Capital Improvement &
Maintenance Plan
(Proposed 01-21-09)

Capital Improvement Maintenance Plan

RED text indicates new acct.

Shaded shows proposed purchase

	Anticipated Cost 2008	Year of Replacement or purchase	Anticipated Balance 6/30/09	Approved 08/09	Draft 09/10	Draft 10/11	Draft 11/12	Draft 12/13	Draft 13/14	Draft 14/15
9000 - Capital Improvements										
HARBOR AND WATERFRONT										
9010 - Dredging	\$ 100,000	2015	30,000	15,000	15,750	16,538	17,364	18,233	19,144	
9020 - Floats & Ramps	ongoing	as needed	12,405	5,000	10,500	11,025	11,576	12,155	12,763	
9020.1 Floats										
9020.2 36' alum. Ramp w/wood deck										
9020.3 Aluminum Ramp										
9015 - Wharf Reserve	ongoing	as needed	19,389	10,000	21,000	22,050	23,153	24,310	25,526	
9016 Boat Ramp	\$ 20,000	2009	-	20,000	2,500	2,625	2,756	2,894	3,039	
9060 - Harbormaster Vessel				2,500	2,625	2,756	2,894	3,039	3,191	
9061.1 14' Aluminum Punt										
9061.2 9.9 hp outboard	\$ 3,000	2009								
9061.3 Parker 23'	\$ 30,000	not determined								
9061.4 225 hp outboard	\$ 16,000	not determined								
9061.5 Parker 23' trailer		not determined								
PUBLIC SAFETY										
9012 Fire Pond Dredging	\$ 5,000	2010		5,000	2,000	2,100	2,205	2,315	2,431	
9025 - Fire truck Reserve	ongoing		40,000	15,000	21,000	22,050	23,153	24,310	25,526	
9026.1 2006 Farrar	\$ 250,000	not determined								
9062.2 1980 Engine 9	\$ 200,000	not determined								
9062.3 1971 Engine 6	\$ 200,000	eliminate								
9062.4 1975 Engine 8	\$ 200,000	2015			20,000	21,000	22,050	23,153	24,310	
9062.5 1975 Tank 1	\$ 200,000	undetermined								
9062.6 Thermal Image Camera	\$ 15,000	2015								
9192 2003 Ambulance	\$ 125,000	2018	1,000	1,000	5,250	5,513	5,788	6,078	6,381	

Capital Improvement and Maintenance Plan

RED text indicates new acct. Shaded shows proposed purchase	Anticipated Cost 2008	Year of Replacement or purchase	Anticipated Balance 5/30/09	Approved 08/09	Draft 09/10	Draft 10/11	Draft 11/12	Draft 12/13	Draft 13/14	Draft 14/15
GENERAL GOVERNMENT RESERVES										
9030 - Facilities										
9035 - Vehicle Reserve			4,000	2,000	5,000	5,250	5,513	5,788	6,078	6,381
9035.1 2001 Red Crown Vic	\$ 25,000	2009	8,000	4,000		3,000	3,150	3,308	3,473	3,647
9035.2 1988 Blk. Crown Vic	\$ 25,000	eliminate asap								
9035.3 1994 Explorer	\$ 25,000	as needed			4,000	4,200	4,410	4,631	4,862	5,105
9035.4 2005 Bluebird Bus	\$ 70,000	ongoing	9,960		6,000	6,300	6,615	6,946	7,293	7,658
9040 - General Reserves			40,000	20,000						
9045 - Revaluation Reserve	\$ 35,000	2011								
PUBLIC WORKS										
9050 - Paving and Roadways			30,000	15,000	75,000	78,750	82,688	86,822	91,163	95,721
9055 - Public Works Equipment			35,000	10,000		15,750	16,538	17,384	18,233	19,144
9055.1 1986 GMC Boom Trk.	\$ 100,000	not determined			15,000	3,000	3,150	3,308	3,473	3,647
9055.2 2003 Chev 4-ton w/plow-sander	\$ 50,000	2010								
9055.3 2000 Dump Trk w/plow-sander	\$ 80,000	not determined								
9055.4 1984 Dump Trk w/plow-sander	\$ 80,000	2015								
9055.5 Bulldozer	\$ 80,000	not determined			20,000	21,000	22,050	23,153	24,310	25,526
9055.6 Backhoe/Loader	\$ 80,000	2013								
9055.7 Road Grader	\$ 110,000	not determined								
9055.8 3000 gal skid tank	\$ 6,000	not determined								
DRAINAGEWAYS AND EASEMENTS										
9058 Easements and Drainage Ways	\$ 60,000	Ongoing other projects			20,000	21,000	22,050	23,153	24,310	25,526
				15,000						
				6,000						
				5,000						
Annual Appropriation			123,000	242,500	258,875	274,319	285,410	299,680	314,664	

Capital Improvement and Maintenance Plan

	Anticipated Cost	Year of Replacement or purchase	Approved 08/09	Approved 09/10	Apprs Balance 3/1/2010	Draft 10/11	Draft 11/12	Draft 12/13	Draft 13/14	Draft 14/15	Draft 15/16	Draft 16/17	Draft 17/18	Draft 18/19
HARBOR AND WATERFRONT														
5010 - Dredging	\$ 150,000	2015	15,000	15,000	45,000	20,700	21,735	22,822	23,963	25,161	26,419	27,740	29,127	30,583
5020 - Floats & Ramps	ongoing	as needed	5,000	5,000	0,402	5,250	5,511	5,788	6,078	6,381	6,700	7,036	7,387	7,757
5020.1 Floats						-	-	-	-	-	-	-	-	-
5020.2 36' alum. Ramp w/wood deck						-	-	-	-	-	-	-	-	-
5020.3 Aluminum Ramp						-	-	-	-	-	-	-	-	-
5015 - Wharf Reserve	ongoing	as needed	10,000	100,000	20,000	20,000	21,000	22,050	23,153	24,310	25,526	26,802	28,142	29,549
5015.1 Boat Ramp	\$ 9,000	2009		5,000	5,000		2,500	2,625	2,756	2,894	3,039	3,191	3,350	3,518
5060 - Harbormaster Vessel						-	-	-	-	-	-	-	-	-
5061.1 14' Aluminum Punt	\$ 1,500					-	-	-	-	-	-	-	-	-
5061.2 5.5 hp outboard	\$ 5,000	not determined				-	-	-	-	-	-	-	-	-
5061.3 Parker 23'	\$ 30,000	not determined				-	-	-	-	-	-	-	-	-
5061.4 225 hp outboard	\$ 16,000	not determined				-	-	-	-	-	-	-	-	-
5061.5 Parker 23' trailer	\$ 2,500	not determined				-	-	-	-	-	-	-	-	-
5012 - Fire Pond Dredging	\$ 5,000	2018		5,000	-	2,000	2,100	2,205	2,315	2,431	2,553	2,680	2,814	2,955
5025 - Fire truck Reserve	ongoing		15,000	10,000	51,400	41,000	43,050	45,203	47,463	49,836	52,328	54,944	57,691	60,576
5022.2 1980 Engine 3	\$ 225,000	not determined				-	-	-	-	-	-	-	-	-
5022.3 1971 Engine 6	\$ 225,000	eliminate				-	-	-	-	-	-	-	-	-
5022.4 1975 Engine 8	\$ 225,000	2015				-	-	-	-	-	-	-	-	-
5022.5 1975 Tank 1	\$ 200,000	undetermined				-	-	-	-	-	-	-	-	-
5022.6 Thermal Image Camera	\$ 15,000	2015				-	-	-	-	-	-	-	-	-
5192 2003 Ambulance	\$ 125,000	2018	1,000	5,000	6,036	5,250	5,513	5,788	6,078	6,381	6,700	7,036	7,387	7,757
GENERAL GOVERNMENT RESERVES														
5030 - Facilities			2,000	-	4,141	4,000	4,200	4,410	4,631	4,862	5,105	5,360	5,628	5,910
5035 - Vehicle Reserve			4,000	-	1,000	-	-	-	-	-	-	-	-	-
5035.1 2001 Red Crown Vic	\$ 25,000	2009				-	-	-	-	-	-	-	-	-
5035.2 1999 Blk. Crown Vic	\$ 25,000	eliminate				-	-	-	-	-	-	-	-	-
5035.3 1994 Explorer	\$ 25,000	skip				2,500	2,625	2,756	2,894	3,039	3,191	3,350	3,518	3,694
5035.4 2005 Bluebird Bus	\$ 70,000	school budget				-	-	-	-	-	-	-	-	-
5040 - General Reserves (Grant Fund)****	ongoing	ongoing	-	-	9,960	-	-	-	-	-	-	-	-	-
5045 - Renovation Reserve	\$ 70,000	2011	20,000	-	41,410	10,000	10,500	11,025	11,576	12,155	12,763	13,401	14,071	14,775
PUBLIC WORKS														
5050 - Paving and Roadways	ongoing	as needed	15,000	30,000	60,000	31,500	33,075	34,729	36,465	38,288	40,203	42,213	44,324	46,540
5055 - Public Works Equipment			10,000			20,000	21,000	22,050	23,153	24,310	25,526	26,802	28,142	29,549
5055.1 1986 GMC Boom Trk.	\$ 100,000	not determined				-	-	-	-	-	-	-	-	-
5055.2 2003 Chevy 1-ton w/plow-sander	\$ 50,000	2013				-	-	-	-	-	-	-	-	-
5055.3 2000 Dump Trk w/plow-sander	\$ 80,000	not determined				-	-	-	-	-	-	-	-	-
5055.4 1981 Dump Trk w/plow-sander	\$ 80,000	2015				-	-	-	-	-	-	-	-	-
5055.5 Bulldozer	\$ 80,000	not determined				-	-	-	-	-	-	-	-	-
5055.6 Backhoe/Loader	\$ 80,000	2010		32,000	-	21,000	22,050	23,153	24,311	25,527	26,803	28,143	29,550	31,028
5055.7 Road Grader	\$ 110,000	not determined				-	-	-	-	-	-	-	-	-
5055.8 3000 gal skid tank	\$ 6,000	not determined				-	-	-	-	-	-	-	-	-
5055.9 Hydroseeder	\$ 15,000	2011				7,500	7,500	-	-	-	-	-	-	-
DRAINAGEWAYS AND EASEMENTS														
9050 - Easements and Drainage Ways	\$ 60,000	Ongoing		10,000	10,000	5,000	5,250	5,513	5,788	6,078	6,381	6,700	7,036	7,387
		other projects		15,000										
				6,000										
				5,000										
Annual Appropriation			123,000	281,000	265,243	195,700	207,610	210,116	220,622	231,653	243,236	255,398	268,168	

Photograph by Cathy MacNeill



Town of Chebeague Island, Maine

Comprehensive Plan

Draft March 14, 2011

Volume II: Inventories and Survey Report

Volume II: Inventories and Survey Report

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Some maps in these inventories show a series of roads between Roy Hill Road and Littlefield Road that do not exist. This has been corrected in the final Plan.

Part III
INVENTORIES

for the

Town of Chebeague Island
Comprehensive Plan

2008-2011

Introduction to the Report on the Town of Chebeague Island Comprehensive Plan Inventories and Vision

In July 2007 Great Chebeague, Hope, Ministerial, Stave, Bates and a number of smaller, uninhabited islands in Casco Bay became an independent town. Since 1821 these islands had been part of the Town of Cumberland on the mainland.

By State law, all towns are required to develop a comprehensive plan if they intend to adopt Zoning and Subdivision ordinances. These ordinances are supposed to be tools for carrying out the community's vision of what it wants its physical development to be like in the future, though in the past, many towns adopted land use ordinances like zoning without doing any planning at all, much less any comprehensive planning.

When the Town of Chebeague Island was initially set up, it simply adopted the 2002 *Chebeague Long-Range Plan* that was part of Cumberland's *Comprehensive Plan*, as well as Cumberland's Zoning and Subdivision Ordinances, modified only to take out provisions related only to the mainland. This strategy of continuity with the past has worked passably well for the first couple of years, but it is only a makeshift. Starting in 2008 a Comprehensive Planning Committee has been working on developing a new comprehensive plan that will guide the development of new land use ordinances that will fit the Town's needs better than the ones inherited from Cumberland.

The comprehensive Planning Committee is made up of a somewhat shifting group of 14 to 18 mostly year-round island residents. The work has been funded by a Planning Grant from the State Planning Office and by several appropriations from the Town. We have been helped by Hugh Coxe of New England Planning Concepts, Judy Colby-George of Spatial Alternatives, both of Yarmouth, and Thea Youngs, an Island Institute Fellow.

Developing a comprehensive plan is a time-consuming process. It is complex in part because the plan is supposed to be "comprehensive", that is, it deals with many aspects of a community's public policies, from how it manages its natural resources and the way it uses its land, to its economy and its community facilities and services.

Typically a comprehensive planning *process* is divided into three major parts, though in reality they are often intertwined:

- The first is an assessment of where the community is now – what are its resources and current policies, what patterns of change or trends are taking place in the community, and what issues need to be addressed by the Plan.
- The second is a process for defining the direction or goals members of the community want to pursue over the coming ten years.
- The third is the development of policy recommendations for achieving those goals. These recommendations are advisory to the Town's Selectmen and its Town Meeting.

This Report makes available all the work by the Town of Chebeague Island Comprehensive Planning Committee done during the first two stages of this process. These form the basis for developing policy recommendations in the third phase.

The State provides communities with a set of Guidelines for developing a comprehensive plan. The topics to be covered are specified in State law. The Guidelines provide a list of general questions for describing the community, its policies and issues. They suggest data that the planning committee should explore to look for trends and issues. Indeed, the State Planning Office provides many kinds of data to towns when they begin a comprehensive planning process. However, since Chebeague is such a new town, a great deal of the data collected by organizations like the Census, the Greater Portland Council of Governments and various state agencies only exist for the prior Town of Cumberland. The Guidelines also suggest policy areas which the State wants local governments to address, and suggests possible kinds of strategies for dealing with these issues.

For a town like the TOCI, these guidelines provide useful direction but can hardly be used as a template. During the first year of work, the Comprehensive Planning Committee discussed with the State Planning Office how the State Guidelines would apply to Chebeague. In particular the Town is small and unusual enough to raise the issue of whether the State's requirement that all communities designate "growth" and "rural" areas in order to try to reduce sprawl really applied to us. While the answer was that it did, the discussion clarified how the State's general policy concerns might actually apply on Chebeague.

Assessment of Current Conditions and Identification of Issues

From January 2008 to September 2009 the Comprehensive Planning Committee worked on assembling data and preparing "inventories" of current conditions and possible policy issues in the Town. Because of the dearth of information that could be provided by the State, the Committee collected much of its data first-hand – counting the current population, for example, or mapping areas with particular natural resources.

By the late fall of 2008 the natural resource inventories were coming together, and in March 2009 a public meeting was held to review those inventories and to identify possible goals for natural resources. This meeting produced some useful feedback, but it was fairly expensive and, more important, it proved difficult to get residents interested in information without policy recommendations attached. So as inventories for land use, transportation and community services have been developed, they were not brought to the public in similar meetings.

Setting a Vision for the Town of Chebeague Island

Setting a vision for an entire community must be a participatory process. Since the Town has both year-round and regular summer residents, the Committee decided that, rather than doing this just in one or a series of meetings, a survey should be done of how both groups wanted to see the Town develop in the future.

A kickoff meeting was held in the summer of 2008 that identified a wide range of issues that residents thought the Plan should address. Then in January 2009 the Committee designed and sent out a survey asking year-round and summer residents what they hoped the Town would be

like “for the next generation”. The surveys were analyzed that spring and in July 2009 a public meeting was held to report on and discuss the findings, and to discuss the vision for the Town. Based on the meetings and the survey results, a *Vision for the Town of Chebeague Island* was adopted by the Committee in the fall of 2009.

The survey instrument and the report on the survey results are in this document. This set of inventories begins with the resulting *Vision Statement*.

People who have served on the Town of Chebeague Island Comprehensive Planning Committee:

Sam Ballard
Sam Birkett
Leila Bisharat
Erno Bonebakker
Ernie Burgess
Donna Damon
Mabel Doughty
Bob Earnest
Jane Frizzell
David Hill
Beth Howe
Phil Jordan
Sheila Jordan
Andy LeMaistre
Peter Olney
Al Traina
Vail Traina
Carol White

In addition, Mark Dyer, Beth Howe and Herb Maine made up a Town Road Survey Committee which studied the condition of the Town’s roads, reported in the Road Inventory.

A VISION FOR CHEBEAGUE

In the year 2020 the Town of Chebeague Island has clean waters and shorelands. The rural character of all the islands has been preserved by actively protecting wild areas from development. On occupied islands rural land uses, such as farming and forestry, are encouraged. The public has access to some of the Town's uninhabited islands though some are particularly protected during nesting season so that they may remain the home of nesting seabirds. The Bay provides sustainable economic and recreational benefits to residents and others. Productive, unpolluted clam-flats also provide economic and recreational opportunities. Fishermen control the sale of, and can increase the value of, their products. Public access to the shore has been increased.

Although it is geographically isolated from the mainland in a state with an aging population, Great Chebeague Island sustains a demographically diverse year-round community by providing a varied economic and social life on the island, with access to the advantages of the Portland metropolitan area. A reliable, affordable multi-modal transportation system provides access to jobs, health care, other services and entertainment on the mainland, without encouraging "too much" development on the island. Adequate parking for CTC is available on Chebeague. Up to date communication technology creates more flexible economic and educational opportunities, and binds the extended Chebeague community together.

The island School provides individualized, quality education. Enrollment fluctuates but stays within a range that allows for effective education. Education at the middle school and high school levels on the mainland provides the advantages of larger, more diverse schools. The community supports students who want to participate in extracurricular activities. Freedom of movement and enjoyment of Chebeague's shores and open spaces, coupled with organized recreation and day care provide a safe and supportive environment for children. Taken together, these services and the "village" that provides them have made the island attractive to working families with children.

Working, year-round residents include fishermen, local business owners, artists, crafts people, and commuters to jobs on the mainland and telecommuters from Chebeague. The island provides economic opportunities for people of varying ages and socioeconomic backgrounds. Services from health care to recreation, and from car registration to issuing clam licenses are provided on the island. Housing that is affordable and designed to meet the needs of people of various ages is now available.

The population of older residents is made up of retiring baby-boomers who have lived on the island for much of their lives or have been coming to the island as summer people. These residents have time, energy and skills to work with other residents on community projects. The island's health care has kept pace with this growing group, as has the provision of home-care, assisted living and rescue services.

Year round residents define the island's basic values – valuing personal independence, combined with mutual support and cooperation. The island encourages multi-generational interaction. Day to day as well as social activities encourage exchange of ideas and mutual

respect. Residents volunteer with non-profits from the Commons to Chedemption, work on Town committees and celebrate together on the holidays that mark the passage of each year. The rich historical, archaeological and architectural resources of the island are preserved.

The summer population is still largely made up of families with multi-generational connections to the island, who are also committed to helping Great Chebeague remain one of Maine's last viable year-round island communities. Summer people as well as summer businesses providing lodging, meals and activities contribute substantially to the island economy and to its social institutions.

The development that has occurred over the past ten years has been guided to be compatible with existing scale and styles of architecture. Islanders have built onto existing hamlets and have developed new neighborhoods. Renovation and conversions are sensitive to the integrity of the island's vernacular architecture. Zoning is business friendly and supports economic development that is compatible with neighboring residential uses. Despite increased numbers of houses and businesses, residents have worked over the past ten years to improve the quality of the groundwater and the waters of Casco Bay.

Residents work with the Town and island non-profits to enhance the island's infrastructure such as roads, community buildings whether public or non-profit, the cemetery and marine infrastructure. The relationship between the Town and the non-profits in providing services has evolved to take advantage of administrative and operational efficiencies. Environmentally friendly transportation and energy sources are encouraged. Ordinances from parking to zoning are developed by island people and are enforced strictly and fairly.

The Town of Chebeague Island became independent in 2007. We preserve our past and our small-town character as we continue to plan for the Town's future.

Introduction to Natural Resources Inventories

The islands in the Town of Chebeague Island are relatively small and are all un-bridged, entirely separated from the mainland. This small size and separation from the mainland mean that the “carrying capacity”, of the Town’s natural resources is limited. It is entirely possible to either foul them up or use them up. For example, the absence of drinking water is an obvious limiting factor to some forms of life on some of the Town’s outer islands. Even on Great Chebeague, both the land and the water set real limits to development, though the limits may be difficult to estimate.

The islands’ natural resources have fundamentally shaped the life of the community since its first settlement. The waters of Casco Bay and land of the islands have provided and still provide a livelihood for many residents. The natural resources have shaped where and how we built our houses and businesses. Now, more than in the 19th century we understand the relationship between the soils, the surface and groundwater and the waters of the Bay so that we recognize the need to be careful about putting pollutants in and then using the water. If we pollute the groundwater, we pollute our drinking water. If we pollute the Bay, we harm the fish, a major source of our livelihood.

The natural resources – the ground and surface water, the Bay and the land – also lie at the heart of residents’ image of the Town as a “rural” place. What does it mean to say that a place is rural? Does this mean it is a pristine wilderness? Since the Town’s islands have been occupied by whites for more than 200 years and by the Abanaki Indians before that, it clearly has not been a wilderness for hundreds of years. During these years Casco Bay’s waters were fished, the islands were logged and farmed. Roads, wharves, houses and businesses were built – the islands were developed. In some cases they later reverted to “nature” again. Through all of this people have thought of the place as “rural”.

Does it mean that the islands’ natural resources such as the land and the water produce income? This is certainly the case with the Bay’s waters, but the pattern of the past 50 years presents a cautionary tale. One of the mainstays of Chebeague’s economy is fishing, but no longer does it include groundfishing, seining for herring or even much scalloping. Lobstering, clamming and sometimes fishing for pogies are all that are left.

The land now has less value for growing crops, grazing animals or logging trees than it has for house-building. There are still undeveloped areas, and the second-growth forest hides one house from another and gives the impression of a natural landscape in some areas. But farming and tree harvesting make up only a small portion of the island’s economy.

Even so, ruralness may be a function of having “enough” open space, both water and land to allow people and wild animals to coexist, and to allow at least some people to pursue traditional “extractive” industries such as fishing, farming and logging that are based on the use of natural resources.

Chebeaguers expect to have day to day experience of “natural” processes such as the yearly and life cycles of wild animals and birds, the succession of field to forest, the gradual encroachment

onto the land by the sea. How much open space is “enough” for this to occur? Maine’s Pattern of Development Task Force distinguishes “tiers” or levels of development by the size of typical habitat blocks in a community and the animals they can support. Tier 1 is undeveloped wilderness with no roads or houses. Tier 5 is suburban development with habitat blocks ranging from one to 20 acres. Even suburban areas provide “habitat” that supports quite a few animal species that have adapted to living with people – raccoons, squirrels, foxes, rabbits, and some songbirds, but not deer or owls, raptors or birds of the forest interior. These latter animals need more, larger pieces of land without the high proportion of “edge habitat” that results from the land being fragmented by roads and houses. These latter animals don’t appear until Tier 3, with habitats ranging from 100 to 500 acres. In addition, some animals and birds need specialized natural habitats that are not just a function of size. These include eelgrass beds, wetlands, vernal pools or nesting islands without predators.

For people, ruralness means having enough land and water to provide products such as food and fiber by farming, fishing, logging and hunting. Again size matters. Making a living from farming, fishing or logging requires fairly large areas. Hunting ceases to be safe at suburban housing densities. And there has to be enough land and water so that it is not degraded or destroyed by the number of people using it.

The Town of Chebeague Island is already reaching the stage where lobstering is the only natural resource based industry that survives. Maybe the Town has reached a point where the other traditional industries are impractical because we are no longer rural enough. In any case, the larger the number of people there are, the more need there is not to close off these rural opportunities by wasting the open land that remains. Letting all the land be developed at suburban densities may result in something that looks moderately rural because there are lots of trees, but which loses its integrity as both animal habitat and economically viable farmland because it is fragmented into such small parcels.

Why is “rural character” important in the Town of Chebeague Island. The survey for the 2000 Long-Range Plan indicated that year-round and summer residents want Great Chebeague to remain rural. This is one of the important characteristics that attracts people to live here year-round and to come to enjoy recreation in the summer. So far, the relatively low average density of development saves taxpayers money by making it unnecessary for the Town to develop expensive urban infrastructure such as water lines, sewers, treatment plants, and engineered storm-water collection systems. The Bay’s waters still provide livelihood to some island residents, and preservation of open land could provide more.

The pressure for continued, increasingly suburban development, comes from several sources. One is the natural assumption that people have a right to develop their land as they please. If they choose to keep it undeveloped, that is their business, just as it is their business if they want to develop it to its most profitable use as suburban-style housing.

A second is the structure of the State’s property tax law which requires that land be taxed on its “highest and best use”. Even here, the State’s Legislature and voters recognize that highest and best use is not the only way to think of value. State constitutional law recognizes the social need

to reduce taxes on farms, tree growth and shoreland used for commercial fishing in order to encourage these traditional resource-based occupations to survive.

A third is the fear that on an island with a free market for its limited land, preservation of open space will drive the price of remaining land even further out of the reach of residents with modest incomes. This is a real issue, but it is worth asking whether this way of thinking may ultimately lead to the destruction of some of the qualities of the Town that attract people to it. Maybe there are other mechanisms outside the free housing market that can be marshaled to deal with the rising price of land.

This set of inventories looks at the natural resources of the islands – the ground and surface waters, the soils, existing agriculture and forestry, and various “critical” natural resources such as the shore, wetlands and animal habitats. It also explores the marine resources of Casco Bay . The inventories look at how we are using these resources now, and what problems this use creates. Once the problems have been analyzed, we can consider how to deal with them.

Water Resources

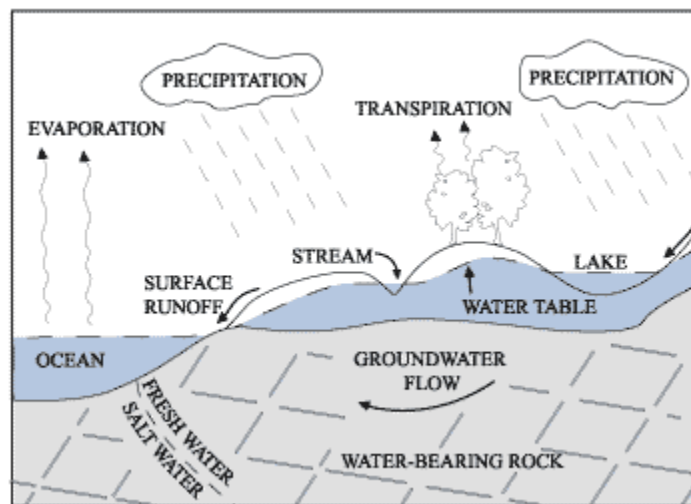
As a community, Chebeague depends on groundwater for drinking and domestic use. Wastewater (sewage) is treated by private septic systems which discharge into the ground.

We have enough groundwater resources for current and projected growth provided that we protect its quality from pollution. Similarly it is important to protect the community's marine resources by insuring surface water runoff is not polluted.

Chebeague's water resources comprise two interacting systems:

- (1) surface water – streams, ponds and drainage ditches.
- (2) groundwater- fresh water that percolates from the surface into ground.

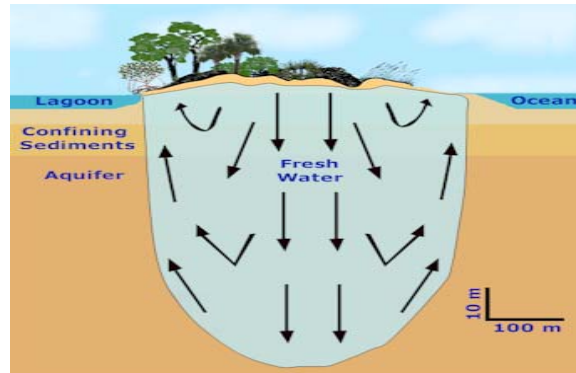
Pollution or water quality is the overarching concern for both surface and ground water.



The Hydrologic Cycle

All water on Chebeague originates as precipitation, either rain or snow. The “hydrological cycle” describes the various transformations of rain and snow. A portion of precipitation (roughly 5-15%) percolates into the ground to recharge the groundwater aquifer. Another portion (roughly 50%) runs off into wetlands and ponds and Casco Bay. The balance takes other paths back into the atmosphere as shown in the diagram.

Great Chebeague has a single source aquifer- all our drinking water comes from precipitation that seeps into the ground and floats in a lens over the bay's salt water. Insuring that this water is not polluted and continues to be recharged is essential.



An Island Aquifer

Because of the relative density of freshwater and seawater, for every foot that the water table rises above sea level, the freshwater lens extends 40 feet below sea level.

The aquifer is recharged as surface water percolates into porous soils and slowly travels down, first through the soil and then into and along fractures in the underlying bedrock. The water table is the level below which openings in the soil or bedrock is filled with water. It is the water level in a well that has not been pumped recently. Because pumping removes water much more rapidly than it can flow into a well, pumping creates a “cone of depression” as the groundwater flows toward the well, seeking its equilibrium level.

Pollution

During each step in the hydrologic cycle water can be polluted by many substances. Many of the activities that create water pollution are normal every-day activities such as gardening, building construction, boating, road maintenance, household cleaning and driving cars. It is important to understand how the pollutants get into the water so that steps can be taken to prevent this from happening.

Water pollution is usually categorized discussed either by the type of pollution or the source:
 point source (http://en.wikipedia.org/wiki/Point_source_pollution) or
 non point source (<http://www.maine.gov/dep/blwq/doceducation/nps/background.htm>)

Point source pollution comes from a clearly defined source such as a pipe, it is easier to identify and manage than nonpoint source pollution which is diffuse such as herbicide washing from a field or garden into groundwater.

Types of pollution:

Pathogens- disease causing organisms, most commonly from ineffective septic systems,

Toxics, including petroleum. The biggest issue here is leaks from tanks and vehicles – cleanup of these is very expensive.

Salt- both from road application and intrusion of seawater into groundwater

Sediments- silt, sand etc. which can fill ditches and ponds, carry other pollutants into the bay and affect marine resources

Nutrients- Nitrogen, from septic systems, fertilizer and fossil fuels –can harm marine resources by triggering harmful algae blooms and reducing dissolved oxygen levels in the Bay.

Pharmaceuticals- medicines discarded down the drain can reach ground and surface water, harming wildlife and drinking water.

Pathogens can get into the water from the surface, for example from animal or bird droppings, wild or domestic, or in the ground from failed septic systems.

Various chemicals can get into the water from herbicides and pesticides spread on agricultural fields or home gardens. Spraying of Dimilin in the 1990s to control browntail moths raised concerns about impacts on lobsters. Fertilizers containing phosphorous and nitrogen also come from fields or gardens. The use of irrigation systems can encourage these chemicals to reach the groundwater. Pills discarded down the drain or in the toilet end up in septic systems but are not treated and end up in the groundwater. Salt gets into stormwater from roads in the winter, and into wells from the ocean.

Petroleum can get into surface and ground water from junked cars, leaking heating oil tanks or gasoline tanks, drips from cars.

Sediments – plain old soil and dirt – can be a pollutant as well, particularly in stormwater runoff... If it is dislodged by water running over the ground, it is carried along until the water discharges into a calm body of water in which it can settle out. If that body of water is a pond, the sediment can fill it up over time. If it is a clam flat, the sediment can smother the clam habitat.

Air Deposition- Rain and snow can "wash" pollutants in the air – nitrogen from burning fossil fuels, heavy metals from industrial processes including the generation of electricity by coal. These then run off or sink into the ground.

<http://www.state.me.us/dep/air/monitoring/Atmosdepos.htm>
http://epa.gov/owow/airdeposition/airdep_sept_final.pdf]

Groundwater

Groundwater is water in the ground. It travels, down and seaward until it discharges either at the surface as a spring or wetland or into the bay. An aquifer is an area that is sufficiently saturated with water to be economically viable to pump water out of it. Aquifers can be in soil/unconsolidated overburden, or in the fractures of bedrock. Most drilled wells draw from bedrock while most dug wells draw from the unconsolidated material above the bedrock.

Groundwater recharge: Maine has on average 45 water equivalent inches of annual precipitation distributed fairly evenly throughout the year. Surface water percolates into the soils or sand and gravel, glacial till and clay silt that comprise the “overburden” of the island. Water percolates into sandier soil most easily. About 5 percent of rain/snow percolates into clay soil; in thin till about 10%; and in thick till as much as 15 percent. A lot of water goes into the groundwater on Chebeague. So the amount of water available is not a limiting factor on the island. The limiting factor is the quality of the water.

Chebeague has a sole source aquifer – the lens of fresh water below the island, described earlier, that floats on the salt water. This means that we have only one source of drinking water for the whole island. Pollution of “part” of it ultimately can pollute all of it. The aquifer is protected by a section in our zoning ordinance that limits activities in areas designated for aquifer protection. U.S. E.P.A. has a program that allows sole source aquifers to be registered. The benefit from this is that it provides more protection in federal permitting processes. Probably there is no down side to registering and it may become more important in the future.

Areas with certain kinds of soils that allow larger amounts of rain and snow to percolate down into the ground are called “aquifer recharge areas”. A map in a 2000 Groundwater Study shows several large aquifer recharge areas along in the center of the island along North Road. There are also smaller recharge areas in other parts of the island. Such maps give a somewhat misleading sense of exactness about the location of such areas. Rather than regulating such things as wells and septic systems by the map, it may make more sense to have performance standards that apply to wells and septic systems in all parts of the island.

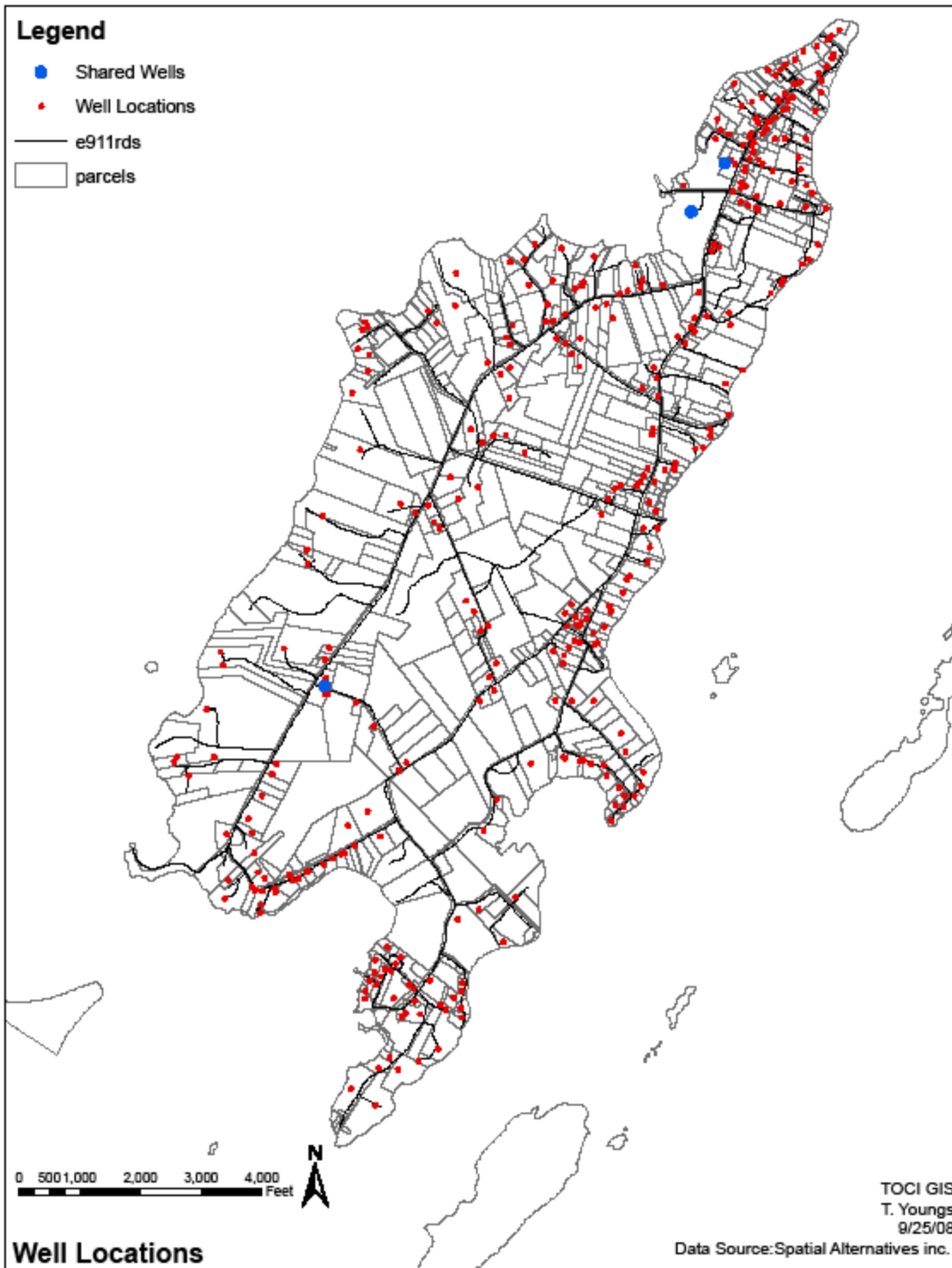
Groundwater studies on Chebeague.

There have been several studies of Chebeague’s groundwater. The first study by Sevee Maher in was in 1992. It involved a community survey of all wells on the island with 80 percent response rate.

There are about 400 wells (Map 1) and the record is kept pretty much up to date. About 80 percent are drilled and 20 percent are dug. There may be a gradual shift to more drilled wells. There are 4-5 regulated public wells at the Inn, the Golf Club, the Rec Center, the School and maybe the Hall. The Historical Society’s well is not allowed to be used for drinking water because the well and septic system are closer than 100 feet. But since the soil is clay, it would be possible to get a waiver.

The collective water supply systems like Crestwell and Hamwell are seasonal and are not required to be registered. Cart Road Acres may be in this category as well.

Follow up groundwater studies were done in 2002 and 2004-5. These enabled the 1992 data to be converted to electronic/GIS format. About two thirds of the wells have been mapped with help from Beverly Johnson.



Map 1: Well Locations on Great Chebeague

In 2000, 102 wells were sampled to find out about the quality of the water. The survey did over-select for wells in areas that might have problems. Half tested positive for bacteria (from leaves, a dead mouse, or leakage around the seal); 5 wells had e coli which has to come from septic systems. These were older septic systems, in fairly densely settled areas. In addition, the testing was done in August in a year with little rain, so the contamination would be more likely to be evident. Areas in which the soil is very shallow above the bedrock are also more likely to have contamination of a well from a septic system because there is less room for the water to move.

In 2004 the 56 wells that had tested positive for bacteria were retested. They found a similar pattern but with fewer problem wells. This was a year with more rain and higher groundwater.

Generally in relation to septic systems, cesspools are more likely to create problems than well designed, modern septic systems. Also, while there is a requirement that the well and septic system on a lot be at least 100 feet apart, a septic system may be closer than 100 feet to a well on another lot. It is a difficult problem when the septic system on one lot pollutes the well on another. The Code Enforcement Officer may have to be brought in to enforce the plumbing code. Maine does not have a law that requires cesspools to be replaced by a modern septic system when the lot is sold. Chebeague is now down to having only one overboard discharge.

One third of wells in 2000 had problems with iron. This is not dangerous, just unaesthetic. This is less than the average for Maine. There were few iron treatment systems in 2000 but Carol thinks there are more now. It might be useful to know how many houses have them.

Saltwater intrusion is a greater problem and a hard one to correct. There are problems on Rose Point, Deer Point and Division Point. These are areas that may have more problems as more houses, and especially more year-round houses are built. On average people use more water per person now than 10 years ago. More pumping changes the pressure in the aquifer and pulls in salt water.

One way to try to prevent saltwater intrusion is to require that wells be located back from the shore – 250 feet, for example, though this may be more than necessary. But once a well has saltwater intrusion, it is difficult to reduce the problem.

Surface Water

Surface water takes many forms: springs, streams, ponds, both natural and artificial, wetlands and sheet flow over the land. Sometimes, as with springs, the water falls as rain, becomes groundwater and then emerges out of the ground again, often as the headwaters of a stream. Indeed, the relationship between surface water and groundwater is very close, since part of all surface water is absorbed into the ground. How much depends on where it falls.

The balance between the amount of water that recharges the groundwater and the amount that runs off into streams, ponds or the Bay depends on several factors. One is whether the ground is frozen or unfrozen. Frozen ground does not absorb water. If the water falls as snow, it does not run off immediately. When the snow melts, if the ground is also unfrozen, some of the water will run off and some will be absorbed.

The steepness and erodibility of the land that the water falls on affects the amount of water that runs off. If the ground is steep, more will run off. If it is erodible, the water will take sediment with it.

Also the surface that the rain falls on affects how much runs off or sinks in. If it falls on a canopy of trees in leaf, it reaches the ground more gradually. Also in the forest, the surface of the ground is covered with things like old leaves, branches and moss, a surface referred to as “duff” which is very good at absorbing water and allowing it to seep into the ground. Long grass has much the same effect. Short grass in lawns and golf courses does not stop water from running off very successfully. It is only a little better than “impervious surfaces” such as roofs, gravel and asphalt roads and parking lots.

It is good to have rainwater permeate into the ground to recharge the groundwater, but there is no particular harm in having it run off into a bay or river as stormwater. The concern with stormwater is the pollution that it picks up as it runs over the surface. It can pick up petroleum from roads, sediments from drainage ditches and herbicides and fertilizers from gardens. Pollution can be reduced by preventing it from running directly into receiving water such as the bay. Slowing it down with vegetation, porous rock weirs and diversions that slow it allows sediments to settle out, often carrying other pollutants with them. Diversion from ditches into shallow pools, wetlands or simply the floor of a forest allow time for biological processes to remove nutrients and other pollutants. It also helps absorption into the ground, where the water is further cleansed of the pollutants it has picked up.

This kind of natural cleansing of stormwater is relatively simple in areas of low density development where there is plenty of non-manicured forest and meadow for the water to be sent to. In rural areas stormwater runs into roadside ditches where it is either absorbed or directed along the road and through culverts to forested or open wetlands, streams, ponds or the ocean. In urban areas, on the other hand, where there is a great deal of impervious surface – roads, parking lots, roofs, lawns with their specimen trees – stormwater does not easily penetrate into the ground, so larger amounts must be collected in elaborately engineered stormwater systems. It must then be treated before it is discharged into a lake or bay.

A power-point presentation on surface water on Chebeague, also on this website, shows examples of good and bad drainage patterns.

Other stormwater drainage and treatment systems can be used. Detention ponds collect and absorb runoff and extend the period of runoff after a storm event. Buffers from 10 to 250 feet in width, vegetated with unmanicured woods, shrubs and grasses on the shorelines of ponds, streams and the Bay keep polluted, sediment loaded stormwater from just flooding into them. This is why the Shoreland Zoning requires a 75 foot setback from the water for new houses. Water can also be collected on house lots in “rain gardens” designed to collect the water and filled with plants that grow well in a damp environment.

A very rough estimate of the percent of Great Chebeague that is covered by impervious surfaces is 6.4 percent. Some of this is entirely natural – ledge clearly is impenetrable so Deer Point was counted as impervious. But most impervious surface is man-made – asphalt and gravel roads and

parking areas, roofs and the Golf Course's large expanse of short grass. Watersheds with more than a threshold level of roughly 10 percent impervious surface may require more careful planning to keep stormwater quality from degrading their environmental quality.

Other activities of potential concern are those that disturb the ground and vegetation such as logging, farming and construction, use of "best management practices" or BMPs such as silt fences, berms etc. can reduce the pollution and sedimentation. BMPs can be imposed by regulation. However, the major issue here is educating the people who log, farm or build about these practices and the reasons why they are important.

Surface Water Studies on Chebeague

Data on Chebeague's natural and man-made drainage was collected in a survey of all island roads in the fall of 2008 (Map 2). Watersheds were determined by interpreting GIS layers showing the topography and water features.

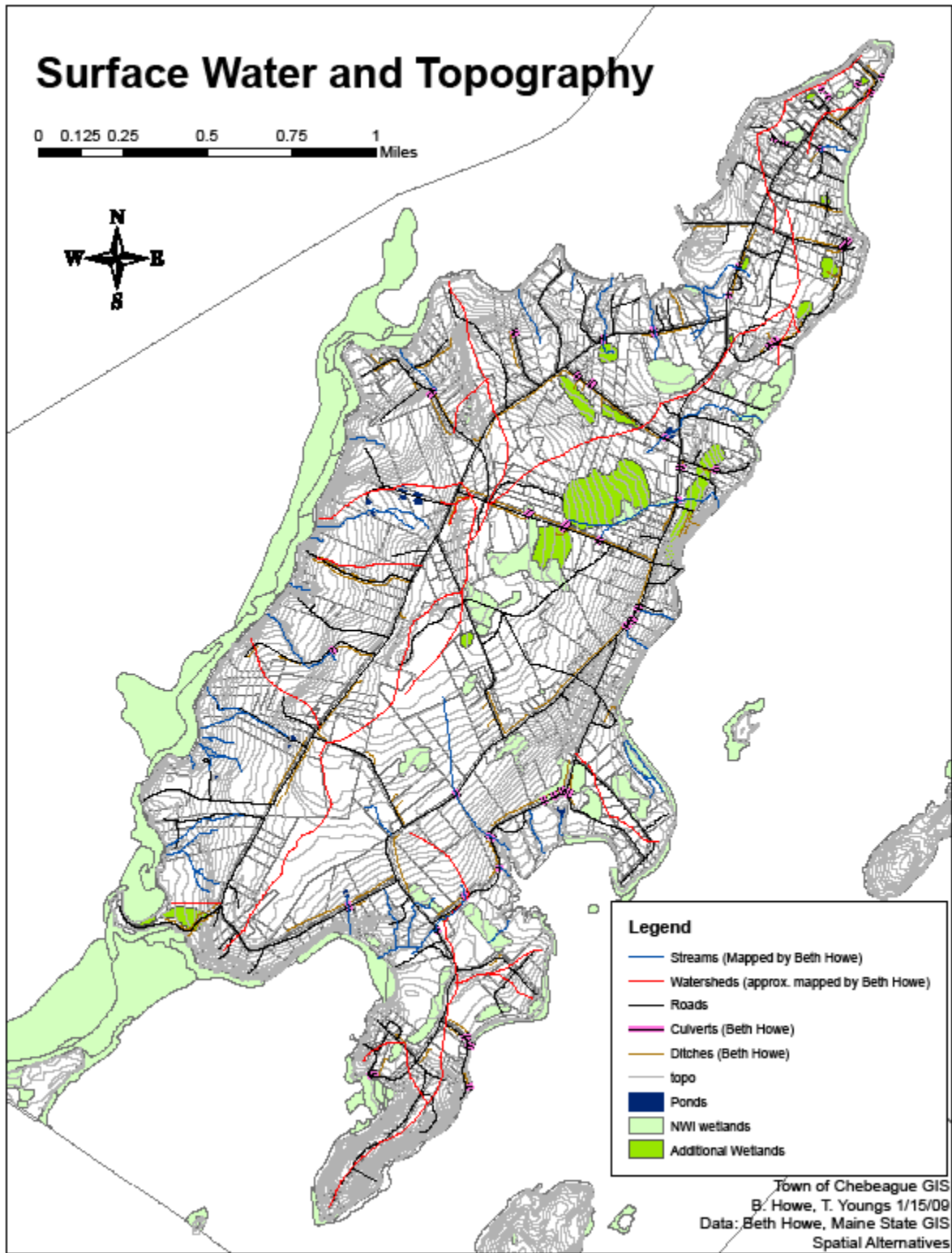
Chebeague has ponds, springs, streams, wetlands and, finally Casco Bay. It also has fire ponds¹ which are generally natural ponds that have been deepened and are maintained as reservoirs for the Fire Department. They are a valuable part of the island's drainage system.

The water flows downhill from the center of the island to the shores all around through a number of watersheds, some of which have greater pollution problems than others. The island is divided more or less down the center into four major watersheds, one on the north side, another on the south and one each at the east and west ends. These reflect the basic topography of the island, but since the road system has been in place for many years, the road drainage also plays a significant role in determining where the stormwater flows. Virtually all the stormwater that does not infiltrate into the groundwater ends up running off into the Bay. If it is polluted it can harm both the groundwater and the various fisheries – clams, lobsters and scallops – in the Bay.

The north side of Chebeague has a fairly narrow and steep watershed, divided into at least three sub-watersheds, each of which has several streams running down to the Bay. Several of the streams seem to emerge as springs along a single contour line which may mark the point where the aquifer recharge area meets an impervious layer of soil or rock. Most of this side of the island is heavily wooded and houses are mostly along the shore, so even though the fairly steep slopes mean that water would normally flow downhill fast, with little infiltration, the duff layer slows it down considerably. The major issue on this side of the island is that the houses, lawns

¹ Since Chebeague has no piped water, when there is a fire, the Fire Department has a pumper truck that takes water to the fire. If more is needed, it goes to the source of water nearest to the house to collect more water. The island has four ponds that are kept dug out and that have a pipe from the pond to the edge of the road so that the pumper can be filled quickly. There are four other ponds that can be used but that do not have hydrants. Where no pond is near there are also nine wharves that can be used to pump water from the Bay.

Map 2: Great Chebeague Watersheds, Streams, Ponds, Wetlands and Drainage Ditches



and groomed landscapes may introduce pollution or sediment into the streams or runoff just as it reaches the Bay.

On the opposite side, the island slopes off more gradually. There are a number of wetlands in the middle of the island which absorb rain and snow before they have a chance to flow downhill. Streams and sheet flow come out of the wetlands, coalescing in places into streams such as the one that runs down to the Cricks. The road ditches along Roy Hill Road, rebuilt after the Patriots Day Storm, direct the road runoff into a series of wetlands that allow sediments to settle out and filter pollutants out of the water. Otherwise, the runoff makes its way down through the woods to South Road where it is collected in the roadside ditches on the north side, and directed down to a series of culverts that create streams that run down to the shore in the Dropping Springs area, and to John Small Road where it is directed into Levy's pond (also a fire pond) and into the Cricks. At the other end of this watershed, water flows from the Ice Pond (now a fire pond) at the Center down to the wetland behind the beach at Springettes. The flat area of Rose Point is divided into two sub-watersheds, each of which has a wetland that absorbs the runoff.

The only area in this southern watershed that has a lot of impervious surface is the Boatyard with its large field of short grass for storing boats and several drainage ditches across the road, directing water down to the Bay. The kinds of activities at the Boatyard, such as scraping and painting of boats and the sale of gasoline, mean that there are considerable pollution hazards there. But when the Boatyard changed hands recently, it was given a clean bill of environmental health.

The watershed at the West End includes most of Cottage Road, Chandler Cove and Deer Point. Again, some of the land is very steep, but much of it is wooded. It also has a series of wetlands along the shore behind Chandler Cove Beach, at Bennett Cove, at Sandy Point and inland, along South Road, including Sanford's Pond (also a fire pond). These all help to cleanse the runoff. Only the steep slope down to Chandler Cove Wharf, with its fairly large asphalt parking area, may have pollution problems.

At the "East" end of the island, there is a sizeable watershed that runs from Roy Hill Road near North road over to Carter's Point on one side and across the island to South Road and then along a ridge that separates the water flowing south to Springettes from the water flowing north to the Golf Course. This watershed has both wetlands that absorb runoff and short streams that take the drainage from North Road and then South Road east of the Historical Society down to the shore. Both the fire pond on the Golf Course and the wetland at the shore end of its set of streams help to slow the progress of the water and remove sediments and pollutants.

However, the area on the island that is probably at most risk of pollution is the area along both sides of Wharf Road through the Golf Course. Here the steep hills down from the Golf Clubhouse and the Chebeague Inn allow fairly large volumes of water to reach the shore. The short grass of the Golf Course is almost as impervious as pavement. Up near South Road some of the stormwater ponds on the Golf Course itself. Closer to the Stone Wharf runoff reaches Wharf Road from both sides, potentially picking up pollutants from the Golf Course and petroleum from the road and the parking lot. In the parking lot the stormwater runs into the Bay.

The major formal regulation of stormwater is provided by the State's Shoreland Zoning requirements. These include provisions that protect particular natural areas. Generally, buildings must be set back at least 75 feet from the high-water line. Regulations for roads, driveways and parking lots and their drainage requirements are laid out. Vegetated buffers must be maintained, and clearing or removal of vegetation are strictly controlled. Agriculture and timber harvesting, where the ground and vegetative cover are disturbed, are carefully regulated. These regulations mean that, in general, land within 250 feet of the shore should provide an environment in which stormwater is absorbed into the ground or at least slowed and filtered before it enters the Bay. Enforcement of these regulations depends on public understanding and acceptance of their purpose as well as on the efforts of the Town Code Enforcement Officer and State DEP.

There is one exception to many of these shoreland zoning regulations. Areas that are zoned for Commercial Fisheries and Marine Activities are intended to allow traditional "water-dependent" commercial and industrial uses to continue unimpeded. These areas have significantly fewer restrictions on land uses, buildings, roads, parking lots and other practices that may create polluted stormwater. On Chebeague the Stone Wharf, the Boatyard and the Casco Bay Line Wharf are among the eight areas designated CFMA.

In general Great Chebeague has a relatively simple, fairly effective and low cost system for handling stormwater. Because the density of development is not great, natural runoff patterns and traditional "rural" drainage with ditches next to roads are generally adequate to handle the runoff. The Patriot's Day Storm was a significant recent test. Roy Hill Road largely washed out but the new road and its stabilized drainage ditches directing the flow of water into the woods and wetlands should do better.

Issues and Policy Ideas

Groundwater

Institute a well registration requirement. The state already has a form, but it is not required.

Minimize saltwater intrusion by requiring more analysis when houses are built as Bar Harbor does, or requiring new wells to be a set distance back from the shore.

Apply to EPA for sole source aquifer designation.

Review the aquifer protection provisions of the Zoning Ordinance to make them more protective

Have higher standards for petroleum storage tanks – doubled walled tanks, filter protection, or containment pad. Lighter produces like gasoline create more pollution problem than heavier oils.

Require water conservation measures for new construction

Protect aquifer recharge areas from intensive development

Septic system registration and inventory.

Consider adopting a groundwater ordinance.

Have a system for taking the fluids out of and removing junked cars

Surface Water

Reduction of use of salt on roads in the winter. Since cost of salt is going up, this may occur anyway.

Public education on the Shoreland Zoning Law and active local enforcement of its provisions.

Eliminating the remaining overboard discharge septic system.

Using Best Management Practices for roadwork to reduce sediment in the runoff (e.g. Seeding and stabilizing drainage ditches, having turnoffs to direct stormwater into forest or wetland areas)

Creating retention ponds to allow silt in stormwater to settle out.

Get professional engineering advice on stormwater management focusing on problem areas.

Retention ponds might double as fire ponds. Someone will have to maintain them

Minimize impervious surfaces.

Encourage the use of natural drainage and things like rain gardens to slow and treat runoff.

Monitor the quality of the runoff in areas of significant impervious surface near the shore.

Marine Resources

Relative to most other towns in the State, one of the most unusual characteristics of the Town of Chebeague Island is that most of its area is sea rather than land. The town covers 12,701 acres, 10,482 of which are water. The land area of the Town is spread out between 14 islands and parts of two others. Some are rock outcrops or are less than an acre in size. The largest island, Great Chebeague itself, is only 1,926 acres.

Fishing has been a major part of Chebeague's economy since the 19th century. Traditionally the island had a diverse along-shore fishery with fishing for different species at different times of year. Now the fishing is limited primarily to lobstering and clamming. Lobstering, in particular is Chebeague's most important export industry. There is still a small amount of groundfishing and scalloping.

The sea has a great deal of economic value for Chebeague in addition to providing employment and income from fishing. In the latter half of the 19th century, 20 percent of households were headed by fishermen and 50 percent by mariners, engaged in activities such as stone slooping. Since the late 19th century, Chebeague has also been a destination for summer vacationers who enjoy fishing, swimming and boating.

The Bay is by far our largest area of open space. Just as houses built next to large parks have higher property values, we all take for granted that houses on or within sight of the shore have higher values than those that have no water views. The decade by decade mapping of the development of Chebeague shows dramatically the increases of houses on and near the water. The 2005 *Chebeague Housing Study* found that in 2004 the median sale price of houses on the water was \$1,220,250 compared with \$279,000 in the interior of the island.

Beyond its economic value, the Bay has nurtured and shaped Chebeague's way of life since before the first white settlers. Its beauty and complexity are a wonder to us.

The Gulf of Maine

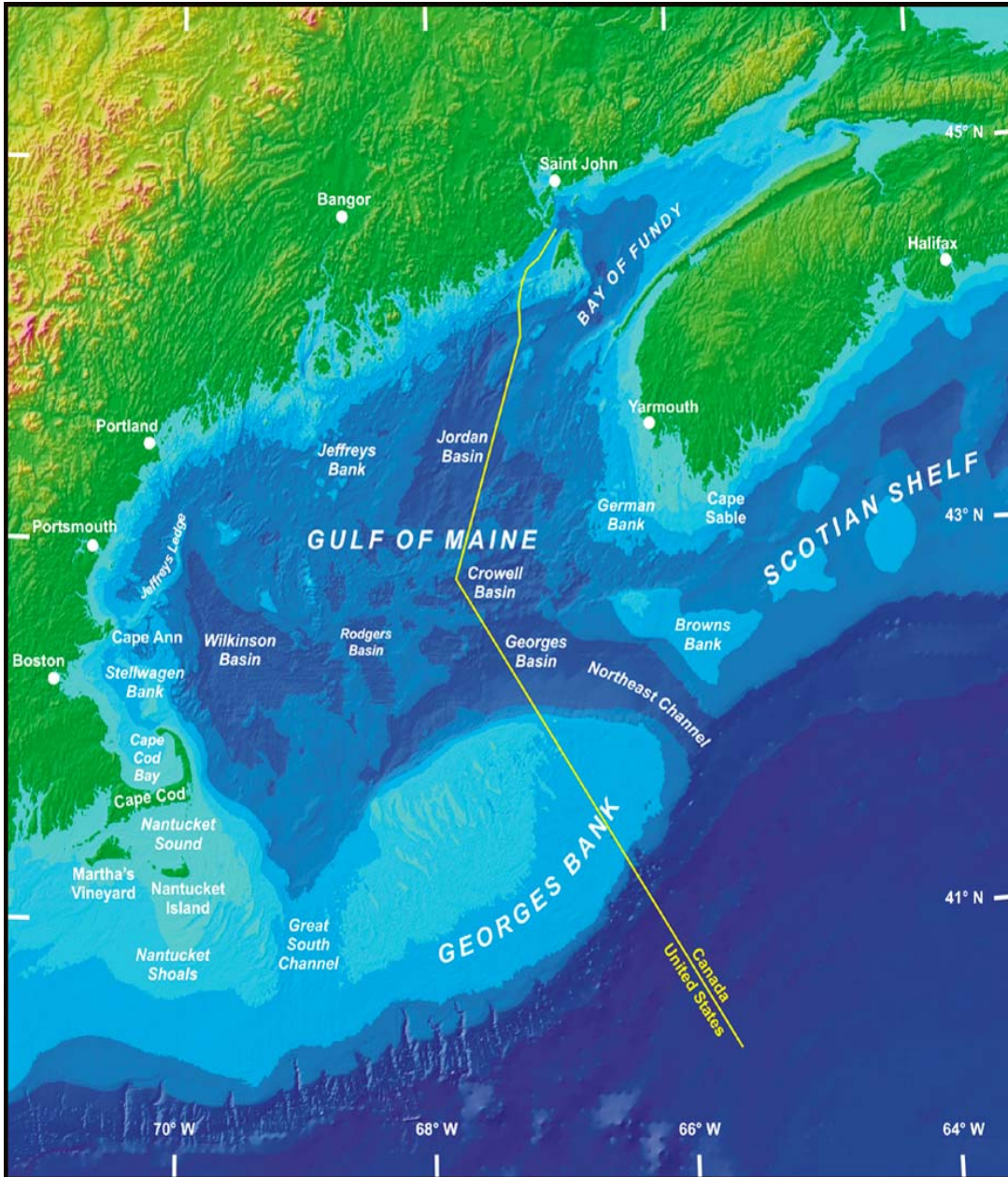
The surface waters in the Gulf of Maine flow in great counterclockwise gyre generated by the Nova Scotia Current – a cold offshoot of Labrador Current from the Atlantic in through Northeast Channel. The gyre is also propelled by water from the spring thaw in rivers and by tidal action. It takes three months for water to go through revolution of this gyre. In addition, the cold Labrador water keeps the waters of the GOM cooler than those in the Atlantic and results in cooler air temperatures for Maine and Nova Scotia in summer, and warmer ones in winter.

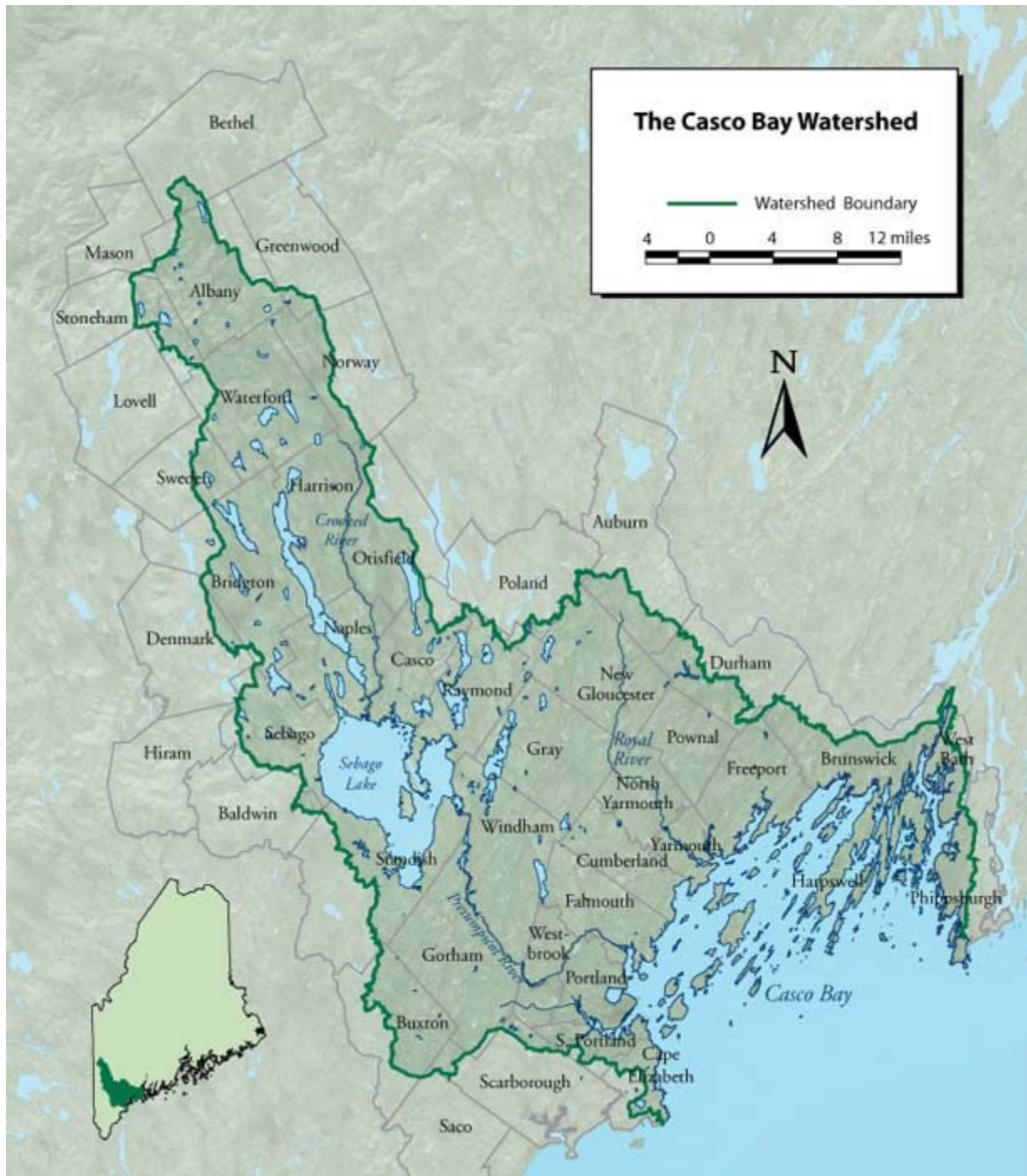
Casco Bay

Casco Bay is a large estuary within the Gulf of Maine (Map 1). An estuary is an area where large amounts of fresh water from rivers run into the sea. As Map 2 shows, the rivers for Casco Bay are the Fore, Presumpscott, the Royal, Cousin, Harraseeket and New Meadows Rivers. Regional Planning for Casco Bay is the responsibility of the Casco Bay Estuary Partnership which developed a *Casco Bay Plan* in 1990, updated in 2006. Its work is not immediately evident in the TOCI, but it forms the larger data collection, analysis, planning and implementation context that supports the Town's work to insure sustainable use of the Bay.

Residents of Chebeague work with the non-profit Friends of Casco Bay in monitoring water quality and reducing pollution going into the Bay from Chebeague's islands.

Map 1: The Gulf of Maine





Map 2: Casco Bay Watersheds

Casco Bay Ecology

An estuary includes a variety of distinct zones. The inshore areas of an estuary have the least penetration of strong waves and tides and are have salt marshes created by rivers. At the seaward edge of an estuary, on the other hand, the waves and tides are strong, and sand, leaving bare ledge. In between is a zone of mixed energy where tides and storm waves can be significant, but some areas are sheltered from the ocean's direct energy. As an off-shore Island

in the middle of Casco Bay, Chebeague is in this mixed energy area, with its south shore facing the outer islands and open ocean and its more sheltered north shore facing the mainland. Unlike much of the open Atlantic, the Gulf of Maine is a very productive “garden” rich in microscopic, single-celled phytoplankton. These phytoplankton are eaten by zooplankton – fish larvae, worms, larval lobsters, mollusks, and other tiny animals, which, in turn, are eaten by larger fish and shellfish which in turn are eaten by people.

The productivity of the Gulf depends on sunlight, carbon dioxide, oxygen, tides, fresh water from the land, nutrients like nitrogen and phosphorous and temperature variations from surface to bottom and across the seasons. The Bay works like a big biological machine to produce life in many forms. The key is Casco Bay’s favorable conditions for the photosynthesis of plants.

The Bay’s cold waters hold more dissolved oxygen and carbon dioxide than warm water – encouraging plant life. If water is still, it tends to settle into stable stratified layers with less dense, less oxygenated warm water on top and heavier, colder, more oxygenated water at the bottom. If stratification occurs, in summer the top water is warm and sunny but has few nutrients because they settle out to the bottom so there is little photosynthesis.

But in many parts of Casco Bay, and at different times of year there is mixing of the layers:
from the strong tides, and
from cooler water sinking in the winter, called “convective overturn”.

This mixing brings nutrients like phosphorous and nitrogen up to the surface from deep water where they have settled. Also nutrients come continuously into the bay from rivers and runoff from the land.

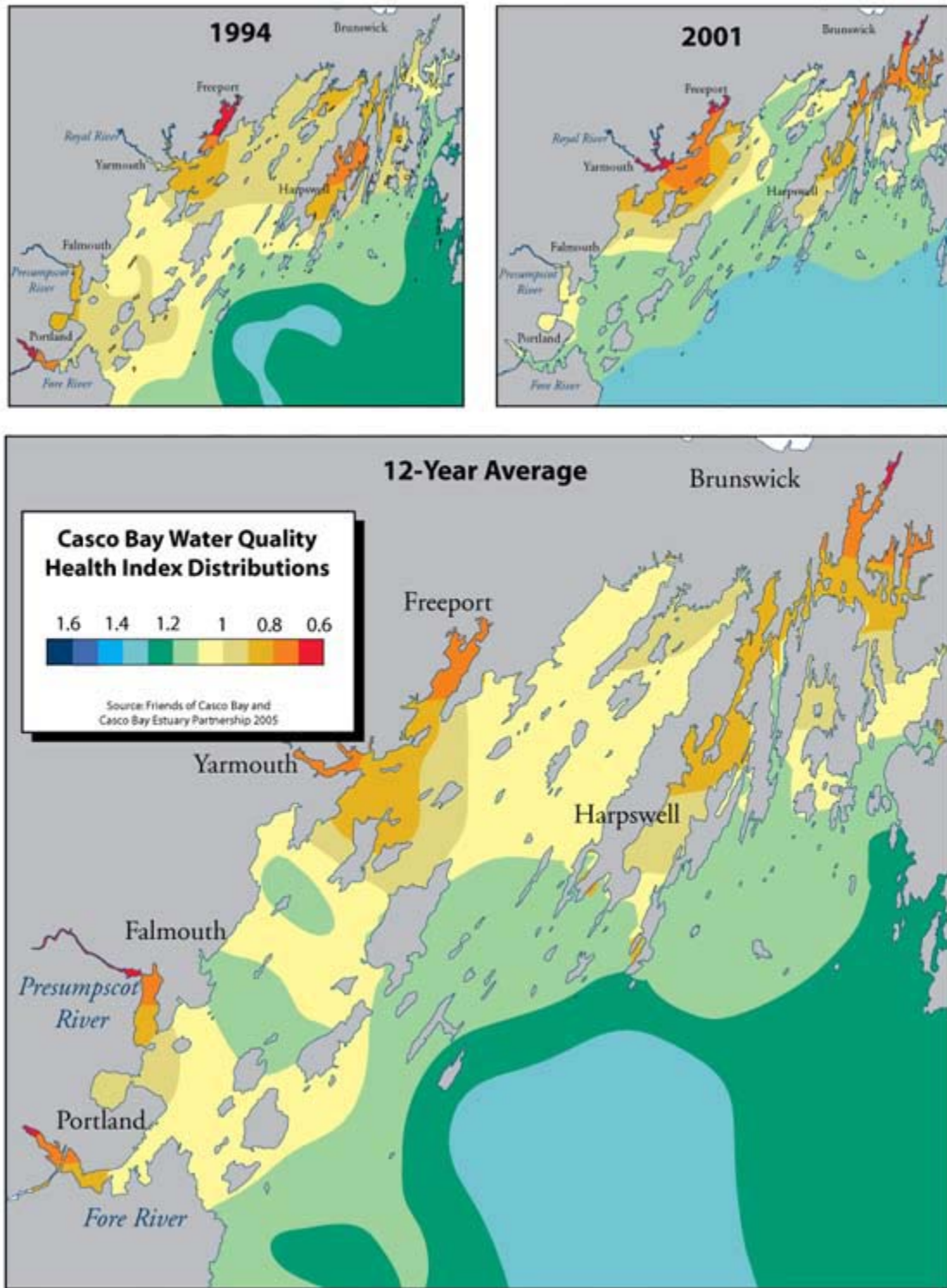
In waters penetrated by the sun and rich with nutrients and carbon dioxide, the phytoplankton photosynthesize and, like other plants, bloom and give off oxygen. In summer the Bay’s become stratified and not highly productive. In winter the cooling surface water sinks, taking the phytoplankton down into deeper, darker waters. In winter the sun is simply not strong enough to produce photosynthesis. But in April/May and in September/October, the sunlight is strong enough and the water isn’t warm enough to become stratified yet so sunlight, carbon dioxide and nutrients are all brought together and photosynthesis occurs. The resulting water rich in dissolved oxygen, is a sign that photosynthesis is occurring. The oxygen itself supports marine life, and the phytoplankton support the zooplankton which, in turn, support larger animals.

Shoreline areas, including islands, are particularly productive areas of this good habitat. In GOM large tides create more intertidal habitat for animals like clams and mussels. Water near the shore where waves break is more oxygenated. And the shore itself creates areas where there can be up-wellings of nutrient-rich deeper water.

Water Quality

The down side of the high marine productivity of an area like Casco Bay is that it can be, in effect, too productive. Nutrients such as phosphorous and nitrogen are necessary for

Map 3: Friends of Casco Bay Water Quality Health Index



photosynthesis. However, if too many nutrients flow into the bay from such sources as sewage treatment plants, farm fields, fertilized lawns and street runoff, photosynthesis can run amok, producing large amounts of phytoplankton and green algae. When these plants die, they are attacked by bacteria that consume much or all of the dissolved oxygen in the water, possibly even killing all other forms of life. This is called “eutrophication”.

The water quality monitoring done by Friends of Casco Bay throughout the Bay from 1993 to the present, including on Chebeague, indicate that the water quality of the Bay is generally good, with the dissolved oxygen saturation in the water largely above the state standards of 70% for urban areas like Portland and 85% for less developed parts of the Bay, levels chosen because below them, biological processes start to be harmed. There is relatively little sign that there are enough nutrients flowing into the Bay to cause eutrophication.

But there is a lot of variation in water quality seasonally, over the years, and in different parts of the Bay. To capture this variation FCB developed a Casco Bay Health Index (Map 3) based on the dissolved oxygen saturation and the clarity of the water in readings taken between 1993 and 2004. The index has a range from .60 at the low (red) end to 1.35 at the high (purple) end. The average annual value for the whole Bay is about 1.00.

Low scores mean that the water contains less dissolved oxygen and has less clarity as a result of river sediments and pollutants. Low scores are found in Portland Harbor (.70 and .77) and in the area of the Presumpscot (.68), Royal (.71) Harraseeket (.79) and New Meadows Rivers (.70 and .77) which have more turbid water with sediments, point source pollutants from sewage treatment plants and non-point source pollution from fertilizer and stormwater runoff. These are also enclosed and restricted areas where there is not much mixing with cleaner ocean waters.

High scores indicate water that is clear and high in dissolved oxygen. These scores are characteristic of offshore places like Halfway Rock (1.32), Rams Island Ledge (1.20) and Small Point (1.24).

As this suggests, there is a clear increase in the index as one moves from the rivers, inshore areas of the Bay, and restricted upper bays such as the New Meadows River to the offshore areas like Halfway Rock.

Chebeague has a score of 1.18 and a monitoring site in Broad Sound had a score of 1.17. These compare to the highest score of 1.32 at Halfway Rock and the lowest score of .68 at the Route 9 bridge on the Presumpscot River. On a more elaborate index for a smaller number of testing sites that included data on nutrients and florescence from photosynthesis, the site at Broad Sound was midway between the highest scores in the offshore areas and the lowest ones in Portland, on the Presumpscot River and in Middle and Quahog Bays.

One problem that is highlighted by these findings is the effect of overboard discharges on the Bay’s water quality. Between 1993 and 1998 there were a number of areas of concern in Harpswell because of low dissolved oxygen readings. Between 1999 and 2004, however, when the State was working to reduce overboard discharges, these areas of concern were significantly reduced. Similarly, Cliff Island, with shallow soils and a number of overboard discharges also

has surprisingly low dissolved oxygen readings in the summer when those houses are being used (Map 4). Chebeague, however, with its deeper soils. Suitable for septic systems, now has only one overboard discharge left.

Map 4: Twelve-Year Mean Summer Surface Dissolved Oxygen

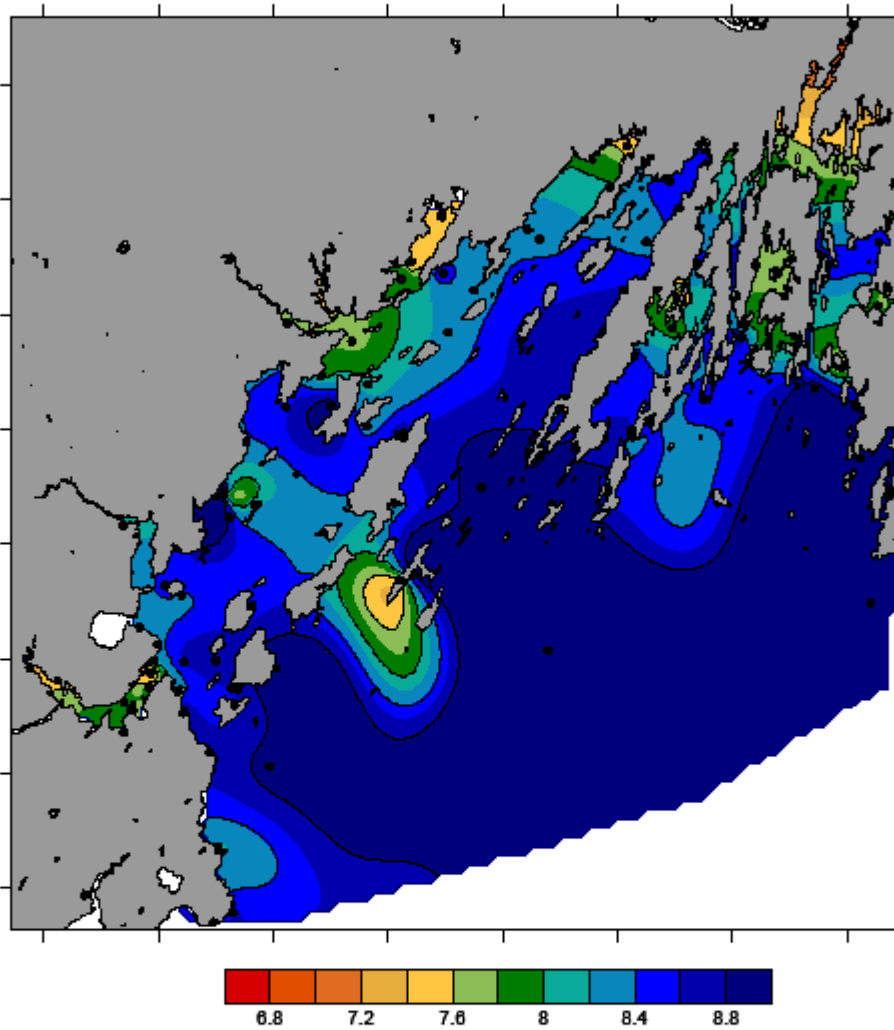


Figure 9. Spatial distribution of 12-year mean summer surface DO concentration (mg/l).

Despite the generally good water quality in the Bay and specifically in the Town of Chebeague Island's waters, in late summer Chebeague's most productive clam beds have areas covered with



green algae. This algae kills the marine animals beneath it. This is a sign of nitrogen pollution from waste-water treatment plants and fertilizers. Some of this may reach Chebeague from the Royal River. Readings at Sea Meadows on Cousin's Island also indicate problems. But Chebeague is also putting fertilizer into these waters just off our shores.

One other aspect of the Gulf of Maine oceanography is that the sea level is rising about 1 inch every 10 years.

Marine Habitats and their Residents

Chebeague has a wide range of marine habitats where different substrates and water depths are inhabited by different animals and plants. The two primary human uses of Chebeague's waters are fishing and recreation and these also vary by marine habitats as well.

The Intertidal

The life-forms in the intertidal have to be able to live in areas which are not covered by water for at least part of the tidal cycle. This is also an area which commonly has a lot of wave action. Some animals, such as barnacles can survive for longer periods out of water, while mussels, crabs and lobsters can only manage a short time. Intertidal areas also vary depending on the nature of the ground surface. Sandy and muddy areas shelter burrowing clams while mussels can attach themselves to boulders, cobble and rock outcrops with their byssal threads.

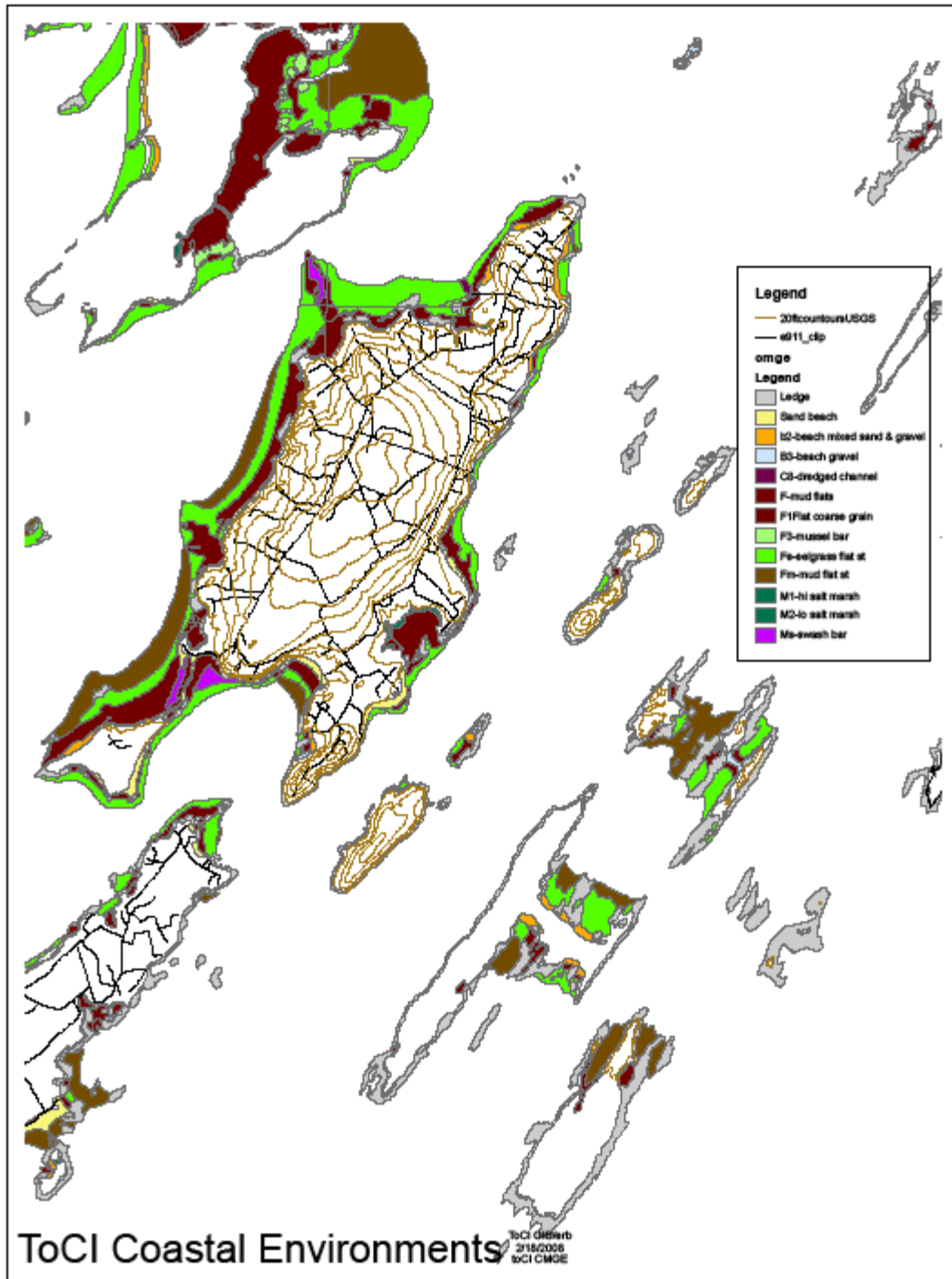
Clams and Mussels

Chebeague has geology suitable for clam-flats, that is sand beaches and muddy tidal flats, around most of its shoreline. In the past, judging by the shell middens left by the Indians and the reports of 19th century clam-bakes, these were probably heavily populated with clams. Now, however, only Indian Point Cove/Little Chebeague Bar, Johnson Cove and a few smaller areas have densities of clams suitable for commercial clamming. State DMR considers a clam flat productive if more than half the clams in a periodic sample are large enough to be harvested legally (2 inches or larger). At the moment, Indian Point Cove is closed to harvesting to allow its clam population to recover to this level.

Clams have several significant predators. Eider ducks are fond of clams. Moon snails drill holes in their shells, sucking out the clam without breaking the shell. Green crabs which were introduced into Maine in the 1940s have been a major problem. The crabs break the soft shells of any size of clam with their claws to get at the meat. They decimate the clams in the subtidal area, leaving only a fringe of clams along the low tide line.

People who eat clams are subject to diseases caused by water pollution that it taken in by the clams in their filter feeding. The State requires the Shellfish warden to test the water in any area that will be open to commercial clamming. On Chebeague there are eight sites where water samples are collected between April and November. The samples are sent to the state and tested

Map 5: Coastal and Intertidal Environments



for salinity and coliform bacteria. If the tests show more than the State minimum for coliform bacteria, the clam flats in that area will be closed. Factors that can affect the water quality include boats with heads that flush into the Bay, overboard discharge from seasonal houses, outfalls from sewage treatment plants, the presence of many waterfowl or domestic or wild animals, and snow-melt, significant rain or floods. If a community does not test its waters, its clam flats are closed. This is the case with Long and Cliff Islands. Clam flats can also be closed by the State because of red tide which may be related to excess nitrogen in the water.

Mussels in the intertidal are only collected by individuals wanting a meal or sometimes for bait. Commercially, mussels were farmed on bottom leases by fishermen who collected baby mussels and released them at their lease area. Now they are largely grown on ropes suspended from rafts in the water column.

Baby Lobsters

When post-larval baby lobsters settle to the bottom they mostly settle in water less than 60 feet deep in cobble or rocky areas, though they may also burrow in eelgrass beds. However, some do find hiding places under rocks in the lower intertidal zone, where their presence and characteristics can be monitored by The Lobster Conservancy to give some ideas of the density of settlement and future numbers of legal-size lobsters. Such baby lobster habitat has been found on Chebeague only in Bennett Cove, so far, which has a suitable rocky habitat.

In the intertidal area these baby lobsters are vulnerable not only to the usual natural lobster predators, but also to disturbance by people walking on or flipping their rocks. State law prohibits handling of pre-legal-size lobsters, but such a regulation is difficult to enforce except through education and voluntary compliance. Might there be some local protection?

Human Beings

The intertidal zone is the only marine area that people can enter and explore without a boat or diving gear. Sandy beaches are the most popular habitat for people, both for vacation activities and for setting off fishing gear. Conflicts between recreators and animals on beaches are generally not a major issue. Horseshoe crabs which come up onto the beach to lay their eggs used to be taken. Now they are much less common, and are protected by law.

Mudflats and rocky shores are less frequented by vacationers unless they go to harvest shellfish or to explore tidepools.

Sub-tidal Bottom

Eelgrass and seaweed nursery habitats

Eelgrass beds (in bright green on Map 5) occur in shallow water where the grass is exposed to lots of sunlight. The many blades of grass provide good shelter against predation for small or juvenile animals including scallops, mussel seed, winter flounder and lobsters. The eelgrass traps suspended sediments and so helps to clear the water and let the sunlight penetrate.

Eelgrass is sensitive to excessive nutrients and disease. It is now recovering from a long period of slime mold wasting disease, and runoff from residential and commercial development as well as residential and agricultural fertilizers can encourage phytoplankton blooms that keep sun from

reaching the eelgrass. In addition mooring anchors can damage eelgrass by the movement of the mooring rope as the tide shifts. There are screw moorings with a floating rope that prevent this.

Seaweed grows in shallow water where the water moves fast enough to keep soft sediments from settling. Seaweeds fasten to the rocky substrate with holdfasts. Rockweed, whose fronds may live for 20 years, and bladderwrack make shallow forests that protect crabs, lobsters and small fish. Seaweed also protects the shore from erosion. Finally, as it breaks up, it contributes to the marine vegetable soup that is eaten by filter feeders like clams and lobsters when they are molting and can't scavenge.

Sub tidal mud, sand, gravel/cobble, bounders and rock outcrops

Subtidal mud and sandy bottom provides little cover for animals that can't bury themselves or mimic the sand. Groundfish are either camouflaged or hide among sand ridges. Lobsters sometimes bury into the mud. Even so, Chebeague fishermen see the young of pollock, hake, pogies, bluefish, flounder, cod, smelts and herring.

Gravel, cobble and rocky bottoms provide much more cover for animals and places for plants and sessile animals like hydroids, tunicates and anemones to attach themselves to the rocks. Sea stars and urchins browse on the bottom. Lobsters, crabs and juvenile cod can shelter under and between rocks.

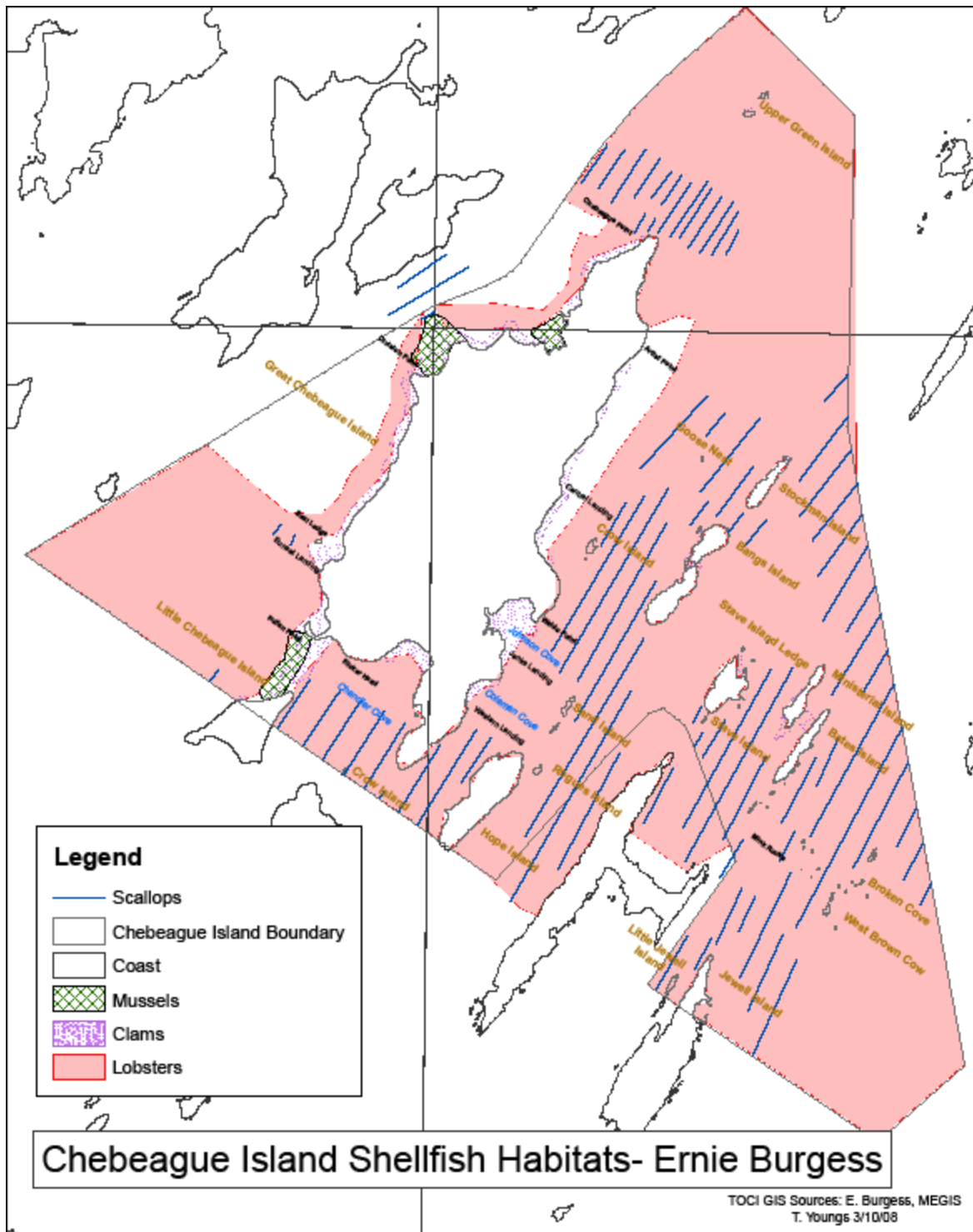
Lobsters

Almost all of the Town of Chebeague's waters are habitat for lobsters, though as the bottom varies from sand to cobble to ledge or boulders, the lobsters may find it more or less suitable.

Lobsters in Casco Bay appear to be abundant, though in recent years the catch has fluctuated. Statewide lobster landings in the state of Maine rose sharply in the 1990s and into the new millennium. Poundage landed increased from about 40 million pounds in 1995 to over 70 million pounds in 2005. It then fell back to closer to 60 million pounds in 2007. On Chebeague, poundage landed by Dropping Springs, LLC rose from 2004 to 2006, and then dropped off five percent in 2007, less than the state average decline.

Lobsters are largely caught in traps, though there has been some pressure to allow lobsters to be taken by dragging. Maine's lobstering regulations, going back many years, are designed to protect the resource. Females with eggs are v-notched and put back, and females without eggs but with an old v-notch are as well. Small lobsters are returned to grow larger, and very large lobsters are returned as brood-stock.

Even with these regulations, the collapse of other fisheries such as groundfish and sea urchins, and the difficulty of understanding the complexities of the Gulf of Maine ecosystem makes people nervous about the future of a fishery that has such large catches every year. However, monitoring of juvenile lobsters in the Gulf of Maine suggests that catches in seven to ten years may be quite abundant.



Map 6

DMR considers one lobster per square meter to be a high density. Densities of juvenile lobsters at Chebeague’s Bennett Cove have risen steadily from .06 lobsters per square meter in 2000 to 1.1 in 2008, with a peak density in July 2008 of 1.9 lobsters per square meter, with a minimum

carapace length of 10 cm and a maximum of 62cm. Chebeague is not unusual in this regard. This pattern of growth in the number of juvenile lobsters between 2000 and 2008 has been seen in all the other juvenile lobster sampling areas in Casco Bay, with peak densities at some sites approaching 5 lobsters per square meter.

This increase in hatching and settlement of juvenile lobsters may be related to the increasing temperature of Maine's waters. When the mean annual water temperature rises above 10 C (50 F) the number of baby lobsters settling and surviving through their first year increases significantly.

The presence of juvenile lobsters now hardly guarantees the presence of similar numbers of legal size lobsters in seven to ten years. Epizootic shell disease which produces lesions spreading from the carapace to the abdomen and claws, has spread from south of Cape Cod north to Maine over the past six years. However, it has not been found in Chebeague waters up to this point. This disease or some other widespread threat to lobsters could significantly affect the coming cohorts of baby lobsters.

Rock Crabs

Crabs are a bycatch from lobstering and are not common enough to create a significant fishery. Seals eat many crabs, reducing the supply.

Scallops

Scallops like sand, gravel and cobble bottom. They can occur on the bottom in many areas of Chebeague's waters. They are fished by dragging or diving. Statewide, the pounds of scallops landed peaked in the early 1980s at over 3 million pounds. Since the early 1990s it declined consistently down to less than 22,000 pounds in 2004 and 2005.

Due to the overfishing the DMR proposed to reduce the number of fishing days in 2009 and limit the daily commercial catch. Six large areas along the Maine coast including Casco Bay were proposed to be closed to fishing for three years. In the end, there was a short season but the likelihood of significant restrictions remains. In the last legislature the drag ring size was increased from 3.5 inches to 4 inches. The Legislature also began to move toward limiting entry into scalloping. The Federal government has developed a Northern Gulf of Maine Scallop Management Area intended to create a more sustainable harvesting program.

Sea Urchins.

Chebeague had a few sea urchin harvesters during the short heyday of this short-lived fishery between 1993 and 1996. Urchins were taken for their roe, both by dragging and by divers. This fishery quickly reduced the numbers of urchins.

The Water Column

This is all the area in the ocean between the sea floor and the sea surface. The water may vary in temperature, density and salinity. Plankton such as copepods and larval stages of bottom-dwelling animals such as crabs and lobsters, live in the area near the surface that receives light, and fish feed on the plankton. This means that the water column is a critical, if high risk,

nursery habitat for many marine animals. Below, in the dark realms of the sea, some animals live primarily on detritus from the waters above, while others move up at night to feed.

Some salmon, mackerel, menhaden, shad, dogfish and other sharks, bluefish, squid and some herring move in and out of the Gulf of Maine seasonally.

Cod, haddock, hake, ocean perch and flounders live in the GOM year-round. The bottom dwelling fish live on the nutrients and phytoplankton that sink to the bottom. Each species has its own particular areas including smaller spawning areas in the non-coastal areas of the Gulf of Maine or on the banks that define its outer edge. The numbers of groundfish have declined fairly steadily since the early 1940 as measured by domestic commercial landings. Upswings have been due to improvements in fishing technologies that have combined with adverse environmental conditions to reduce stock even further.

Mussel Farming

Mussels live naturally in the shallow water and the intertidal zone. In these areas they are eaten by birds and local people who collect them on a non-commercial basis. However, farmed mussels are suspended in the water column from mussel rafts. The Town of Chebeague Island has one commercial mussel farm owned by someone not from the island.

The Chebeague lobstermen appear to have a strong commitment to the idea that the bottom of the Bay is a collective resource and do not approve of state regulatory practices that grant leases to mussel farmers or any other kind of aquaculturists that deny lobstercatchers access to the bottom in those areas.

Language about mussel farms from 2000 plan

The Chebeague fishermen are concerned about the impact of this new fishery on their access to places where they have set their traps in the past. The survey suggests that this is not a widely understood or recognized issue among Islanders who are not lobstermen.

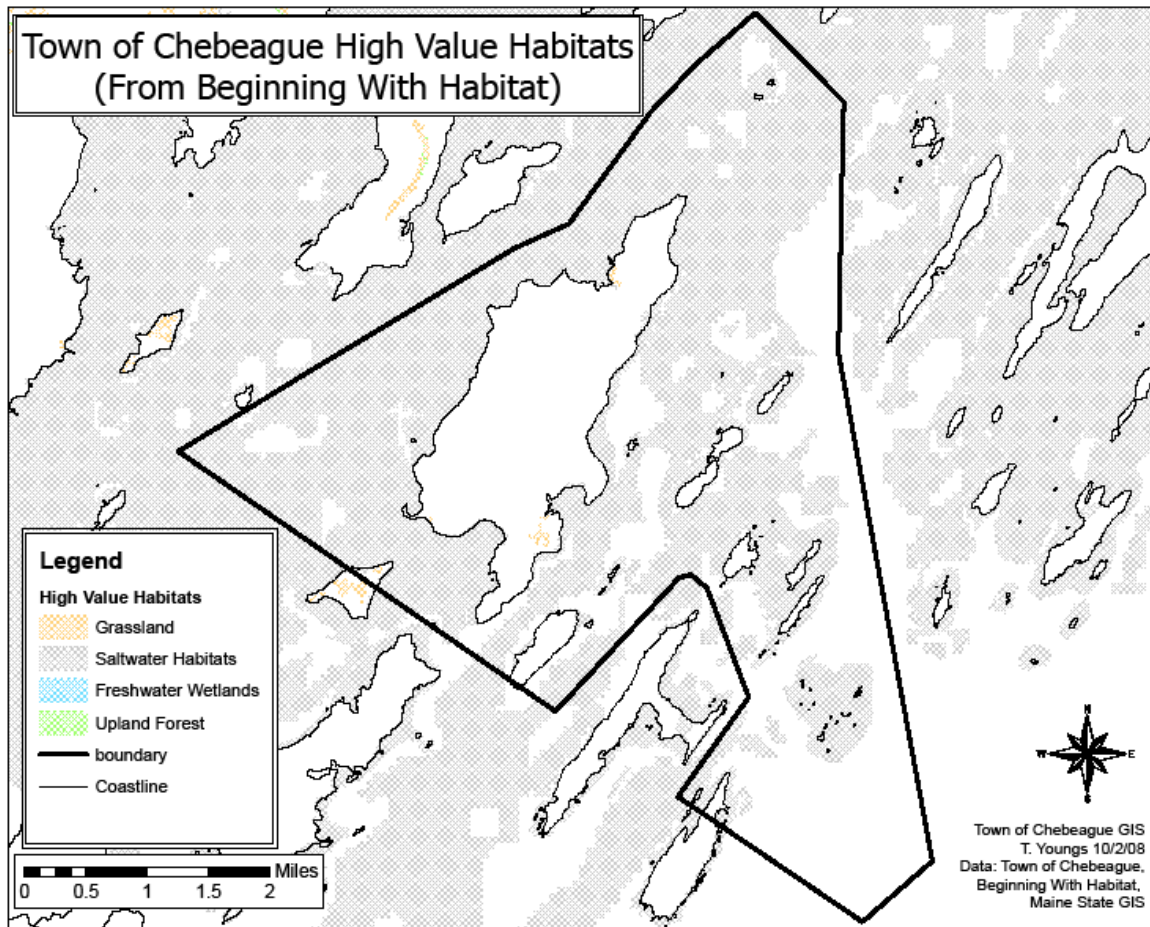
The waters around Chebeague have the potential to be excellent aquaculture sites for several reasons:

- Strong tidal flushing,
- Protection from wind, weather and seas,
- Numerous areas of sand and mud for intertidal shellfish habitation,
- Warm water temperatures during the summer months.

Mussel grow-out rafts, which require deep water and strong tidal flushing could be practical at almost any protected cove or area near the Island, though this does depend on the season and weather conditions as well.

Most of Chebeague's waters are listed as highest value habitat for rare, threatened or endangered species or species with persistent declining population by the U.S. Fish and Wildlife Service. The fish included in this list that are found in Casco Bay are alewives, American eels, shad, Atlantic salmon, Atlantic sturgeon, blueback herring, bluefish, horseshoe crabs and winter flounder. These are not generally fish that are of economic importance to Chebeague's

fishermen, but their habitats overlap entirely with species that are.



Map 7: High Value Marine Habitat

The water column is also plied by commercial and pleasure boats. Most pleasure boats as well as lobster boats and commercial barges generally operate in inshore waters. The same is true for the ferries that serve the Casco Bay islands including Chebeague. These are important elements of the Town's economy in addition to fishing.

Moorings for boats and for rafts servicing the lobster and mussel industries also use space on the open water. Moorings can create use conflicts which will be examined in the next part on the marine economy.

Predators, invasive species and fishing damage

As has been discussed in a number of the sections above, many animals are predators of economically important invertebrates. Eider ducks eat mussels and clams as do shags. Seals eat lobsters and crabs unless they are tempted away to eat pogies and other fish. Seals are as marine mammals. Green crabs and moon snails eat clams. Asian shore crabs are newly introduced

invasive species – not found yet on Chebeague, but found in Harpswell. We don't know what damage they do.

Fishing by dragging itself is harmful to the bottom as the drag turns up and breaks up whatever is on the bottom. Some bottom-dwelling animals seem to be able to escape and live to be caught in the future, but “improvements” in dragging technology make this less likely.

Any fishing that takes an animal that is spawning, as the urchin fishery did, creates problems for the long-term survival of the animals and the fishing. Lobster regulations take this fact into account. Fishing for shrimp in Maine captures many shrimp with eggs, but this may be mitigated by the rocky bottom in areas where there are shrimp. This means that parts of the area cannot be dragged so that many shrimp with eggs escape.

As this inventory indicates, overfishing is a major problem in reducing stocks of marine animals. Inefficient fishing may be better fishing.

Issues

Jurisdiction

The state owns and controls all the waters below the intertidal out to the three mile limit, so they regulate all the fisheries, requiring permits and bottom leases and setting harvesting regulations, seasons and quotas for various kinds of fish and shellfish. Even in the intertidal they regulate clamming through water testing and the requirement to dedicate clamming license revenues to clam flat maintenance.

The Federal government controls waters further out and plays a role in the management of many fisheries. Sometimes there are conflicts between Federal and State regulations, but often they are made to be compatible.

The issue for the Town may be how to increase the Town's role in this state-controlled system.

This is also a major area of the plan where regional approaches to issues are critical. Working with Friends of Casco Bay, the Casco Bay Estuary Project and other voluntary and governmental agencies is essential to deal with problems.

Pollution

Nitrogen pollution from Chebeague to clam flats – Identify sources of fertilizer. Monitor green algae

Pollution of other areas of the Bay – regional issue. Estuary Project, Friends of Casco Bay

Clams

Reduction in distribution, numbers and size of clams – manage flats; close flats to Recover. Is there any way to reduce predation by birds and green crabs?

Mussels

No definition of areas suitable for mussel farming.

Lobsters

Protect the r State regulations

Protect baby lobsters in intertidal?

Protect and encourage eelgrass beds – pollution and disease
tor water temperature change

Scallops

Input into new regulations being developed by the State.

Invasive species

Asian shore crabs

Green crabs

Sea level rise

Agriculture

The State Comprehensive Planning Guidelines present agriculture as something that towns already have that needs to be saved. They want the comprehensive plan to catalog and retain existing agriculture for the state's economy, prevent sprawl, to provide natural habitat and help to preserve the Maine "way of life". They provide no specific guidance on reestablishing agriculture in areas that had it once but do not have it now, but have ideas we can use about defining critical rural areas and ways that a town and its citizens can support agriculture.

Chebeague has very little agriculture now. Land that used to be farmed has mostly grown up in trees. What farming we have is mostly of the home garden variety. Only Second Wind Farm is trying to make an economic go of it. We do have a cultural memory of farming – a mixed economy of farming and fishing and a tradition of a relatively self-sufficient island economy.

Forestry, grazing and tillage can be seen as a continuum. Land that was used for crops and grazing has grown up into forest. It can go the other way as well. When forest is cleared it is full of stumps and treelets/brush, not ready for growing crops. Animals can make scrub land into pasture, even with the stumps, and with stump and rock removal it can then become crop land if the soils are adequate and water is available.

Farming requires investment in land, buildings, machinery and animals/plants/seeds. The scale of the farming to produce income on an island is likely to be different from farming on the mainland and so is the need for things like machinery. Normally the minimum size for a viable logging operation is 400 acres and a pulp mill. For a dairy farm it may be 125 to 150 cows on 50 to 100 or more acres. However, the Amish manage with less because they have less capital investment. But if we wanted to process farm goods – for example milk into products like cheese – we would need more equipment. Also, since farming ended on Chebeague in the 1960s and by that time land had come to have value largely for housing, our land is very expensive and there are not large, contiguous areas that could be turned into farms. But we could be ahead of conventional wisdom by trying to make small-scale farming work on an island.

In order to choose areas to encourage farming in we need to think about the size of lots, soil types, ledge and erosion potential, availability of water and ease of access.

The benefits of farming and forestry could include employment and income, the availability of local food and energy sources, and reduced shipping costs for food and fuels. Farming and forestry could provide mechanisms for fire control – firebreaks, fire ponds and the addition of equipment that could be used for fighting fires. They would provide more open space and wider views and could encourage clustered neighborhoods, with buffers and windbreaks. They could also encourage soil enrichment and more varied, healthier flora and fauna

Farming could also bring with it problems that would have to be dealt with: stormwater runoff that may be polluted, loss of familiar views, and conflicts with neighbors over farming noise and smells. It is also important to consider whether there are other prime uses for the land – for housing, public services or recreational facilities for tourism.

We have to decide how to frame recommendations on farming. Would it just be a general vision of a return to farming? Would it be a land use plan that would include farming in an “end state” map? Would it extend to zoning land for farming? Would it be a list of the kind of farming that might be possible. Would it include financial assistance for farmers through making land under conservation easement available, through tax incentives, even land purchase?

The next section on island farming history should not be viewed just as a description of “the way things used to be” but as lessons and directions for the future.

The History of Farming on Chebeague and the Other Islands

What has happened to farming on Chebeague is not unlike what happened to farming in the rest of New England. The land was heavily farmed in the 18th and 19th centuries and then gradually, because land was better in other parts of the country and because of changes in the demand for various crops, many of the farmers moved away or gave up farming, and much of the farmland reverted to forest.

Great Chebeague Island has been heavily farmed in the past. It is likely that the trees were cut for mainland use in the early 18th century. Since the land had been cut over, people moved to Chebeague from the mainland in the mid and late 18th century in order to find land to farm. We know, for instance, that the Waites had a large farm on the eastern part of the island at the time of the Revolution. Records tell us that they left their dwellings and took themselves and their livestock inland to avoid attack by the British. At that time, when five families owned all of Great Chebeague, DeBarres’s 1776 chart of Casco Bay shows nine buildings on “Great Jebieg”. Six of these were probably house and barn on three separate farms.

Since then it appears that almost the entire island of Great Chebeague was used for pasture, for haying and for growing vegetables and maintaining livestock. Many photos and stories give testament to the many views of the bay and surrounding islands provided by farm fields. And before the advent of multiple town roads, the many farms and their animals were fenced in. Before the construction of North Road in 1873, people had to pass through gates in 13 fences to get from the East End to the Church in the middle of the island.

Other parts of the present town such as Bangs and Stockman Islands were used for pasturing sheep and cattle. The Jenks were using Bangs for cattle pasture into the 1890s. Much of the land continued to be cleared for agriculture into the first quarter of the 20th century.

The first land holdings on Chebeague were relatively large. In 1840 there were 65 property owners. The average size of their holdings was 24.3 acres, but the parcels ranged in size from 4 to 97 acres. Throughout the century family parcels were further subdivided to provide land for younger members but most remained large enough to farm. The census of 1860 showed Chebeague as having 30 farmers. It is difficult to know how many of these land owners were farming solely to provide for their families and how many were selling some of their produce on the mainland. In addition, it is likely that many of these same farmers went fishing and stone slooping with their relatives and neighbors who were listed as fishermen and mariners. And mariners and fishermen worked part-time as farmers. Nearly everyone at that time had a horse

or two, a milk cow, some sheep, some chickens, a pig and perhaps a yoke of oxen. Chebeague was lucky to have both the land and the sea to draw from.

John F. “Flatfoot” Hamilton (b. 1837) is an example of someone who was both a farmer and a mariner. He inherited a farm on East End Point from his father, John “Uncle Jack” Hamilton in 1875. At that time John F. was very much a stone sloopier and was living in Portland. However, he hired someone to continue farming his land on the island. It would appear that he was making a profit from both the sea and the land.

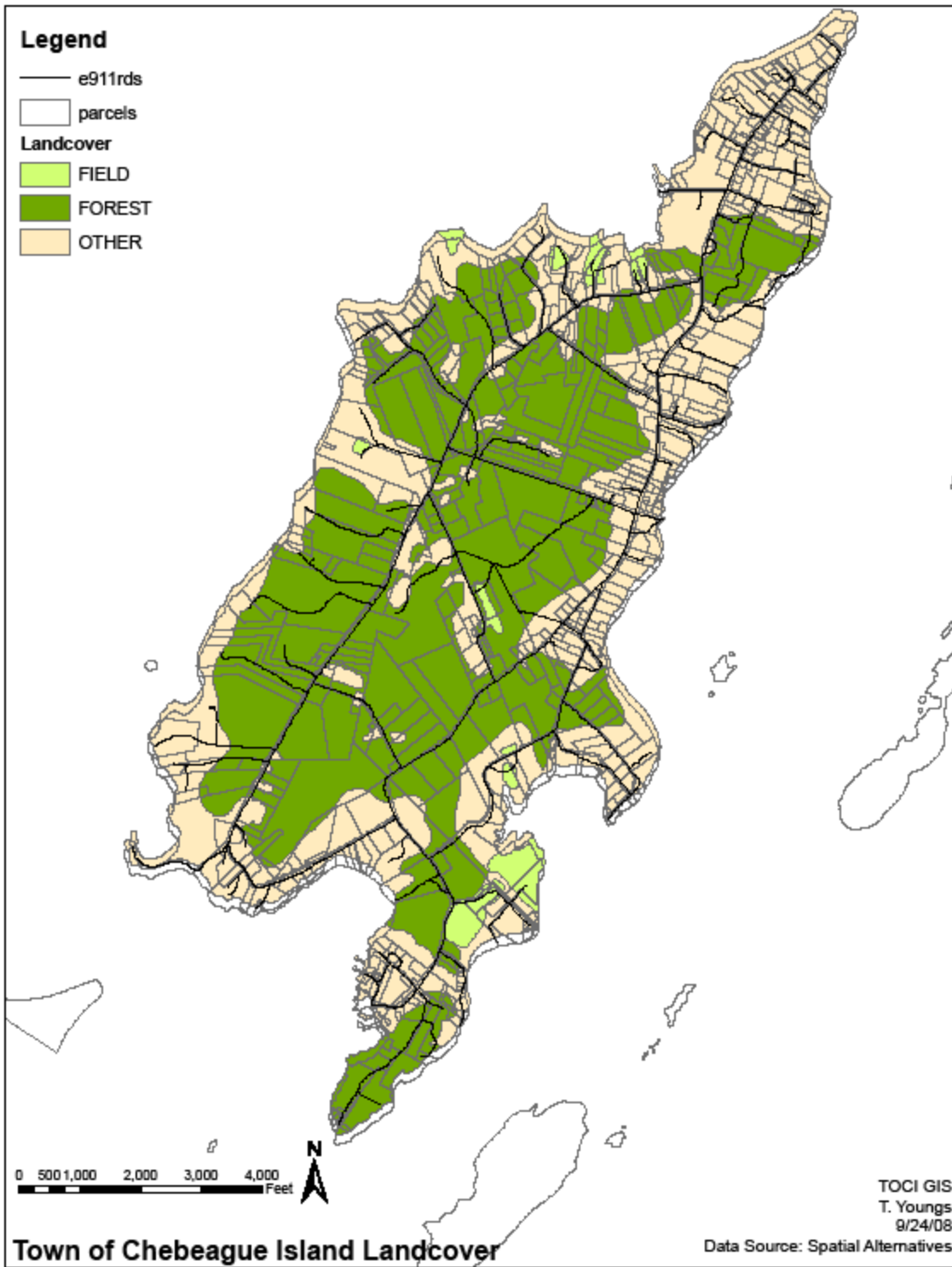
After the Civil War several families moved to Chebeague: the Dyers, the Hannafords, the Bishops, the Jenks and the Higgins. The Hannafords (progenitors of the supermarket chain) Jencks and Higgins had quite large farms and sold produce on the mainland. Ed Jenks kept farming into the 1960s. The Higgins family came to the island after farming in Cape Elizabeth. They swapped their Cape Elizabeth farm for Stephen Orr’s island farm. Their son, Sylvanus, ran his model farm for many years and his nephew, George, was still farming into the 1960s as well. Howard Curit also farmed and sold vegetables into the 1950s. Even the summer people got into the act. Ellis Ballard, a businessman from Philadelphia, was attracted to Chebeague as a summer resident by the possibility of having a model farm, which he had at the West End.

However, even by 1900 farming was in decline, and between 1900 and 1920, many farmers subdivided their open land for the construction of summer houses. Subdivisions along the shore at the East End, along the new “Cottage Road”, at Bennett Cove and at Sunset Landing. Most became neighborhoods in themselves, though Sunset’s wharf washed away and the land was never developed but was left to grow up in trees. In 1902 there were still 22 farmers, but by 1950 the census listed only one.

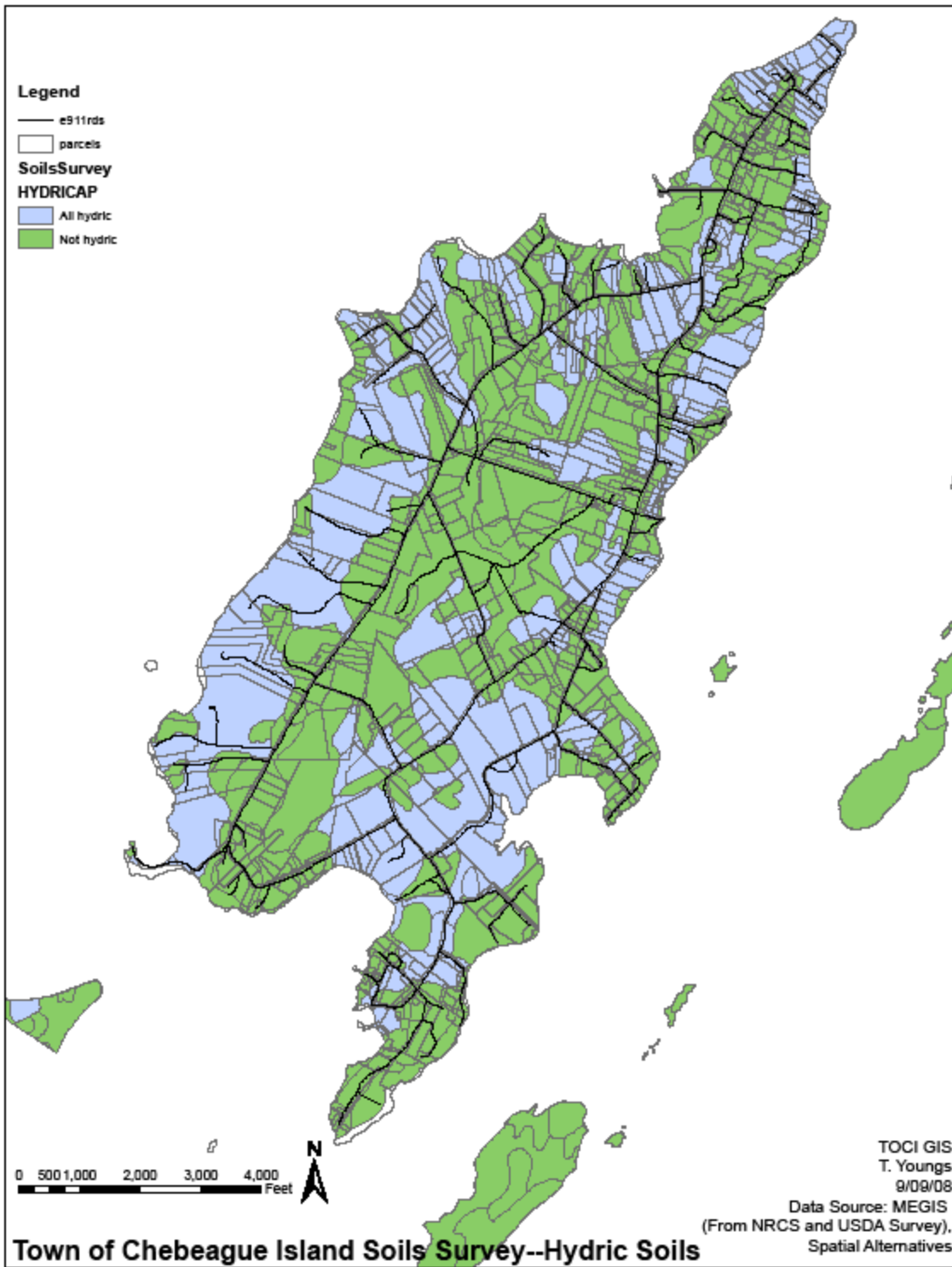
Great Chebeague is blessed with deep soil and abundant water for farming. Some of this soil is naturally rich and well drained. It is clear, though, that even some of the wetter areas of the island were ditched and used for hay and pasture in the past. Even some rocky land was hayed. Now, though holdings are likely to be smaller, the potential for having thriving agriculture on Great Chebeague is again within the realm of the possible.

Current Possibilities for Chebeague Farming

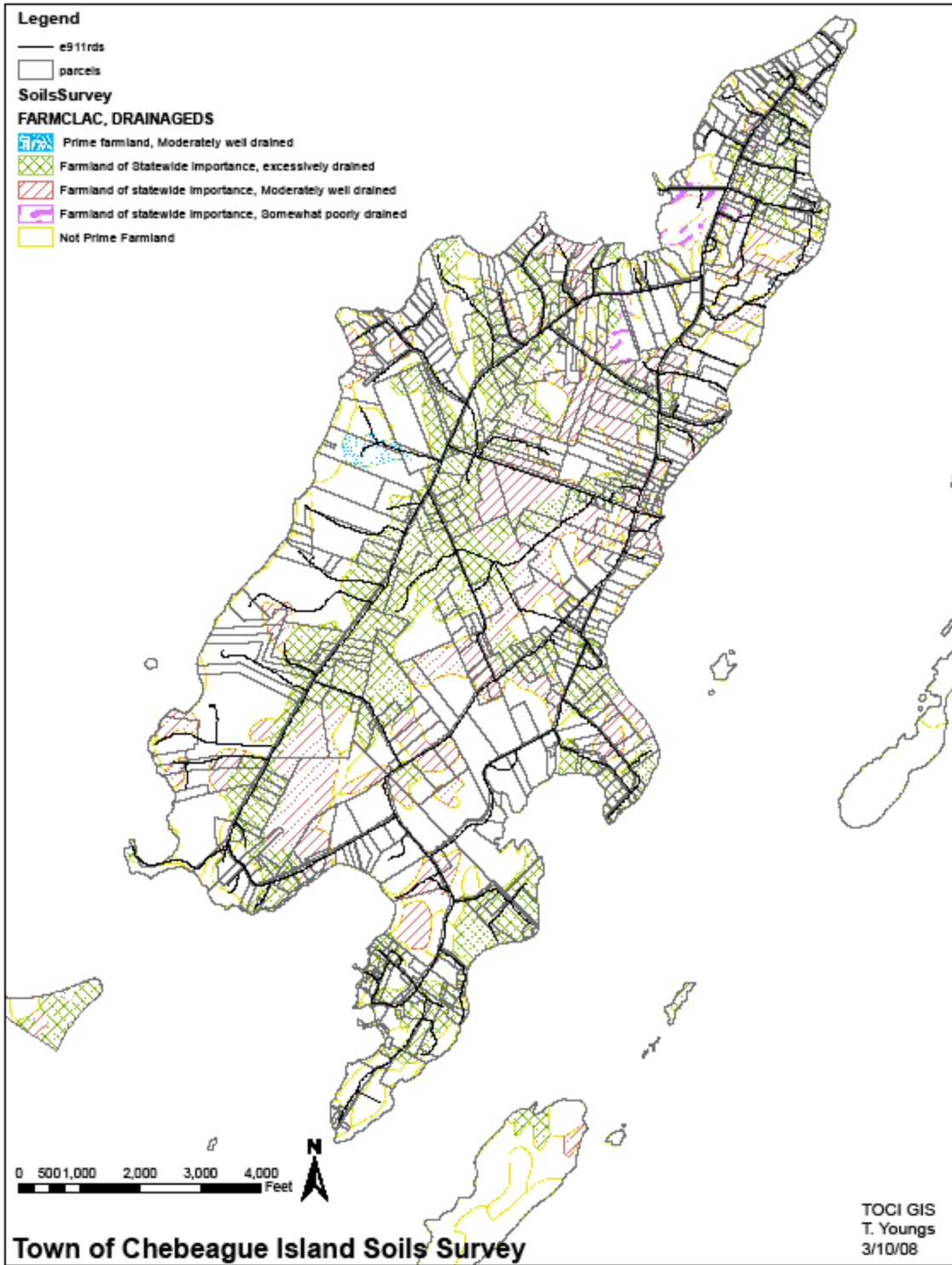
The Higgins farm is now protected by a conservation easement with the Chebeague and Cumberland Land Trust. Among the possible uses of the land listed in the easement document is farming. However, on the Town’s draft current land use map, only two parcels of land are shown as actually being used for farming. One is Second Wind Farm; the other is Jonathan KomLosy’s sheep pasture. Other than these two parcels, there are three small herds of sheep and goats and many island people have vegetable gardens.



Map 1: Landcover



Map 2: Hydric Soils on Great Chebeague



Map 3: Soil Suitability for Agriculture

We need to think about what the goals are of bringing farming back to Chebeague and what is the best way to get started. What land is available that is cleared. What could be farmed on forested land? What would it take to clear more land?

Because of the moderating effect of the Bay's waters, Chebeague is two growing zones warmer than areas at the same latitude but inland. This means that the growing season is longer.

The information we have about Chebeague's land indicates that there is good farmland on the island but that it has some issues. The data only tell part of the story. Past experience suggests how to deal with these issues. The land cover map (Map 1) shows large areas of forest, a number of open fields, mostly along the shore and quite a lot of land classified as "other" meaning developed land.

The soils map² (Map 2) indicates that the island has a great deal of hydric soil which would normally be considered too wet to farm. But the history of farming shows that much of the land particularly on the North and West sides of the island, had been ditched and drained in the past. Donna said that much of the land on the north side of the island had also been drained. In addition, land which is wet in the forest may not be as wet when it is cleared for farmland. So in the past, most of the land on the island could be farmed.

Much of the non-hydric soil on the island is along the spine in the middle of the island between North and South Roads. This could be farmed. But at present it is largely covered with trees.

The map of soil suitability for agriculture (Map 3) indicates that Chebeague has a lot of good land. This is unusual for a Casco Bay island. Most of the others have very sparse soil. The map indicates that Chebeague has only one area, at the old Curit Farm, that is "prime farmland, moderately drained". But large areas of the non-hydric soils in the middle of the island are "farmland of state wide importance", though excessively drained which suggests that irrigation might be needed. Much of the rest of the non-hydric soil is "farmland of statewide importance, Moderately well drained. This land is privately owned and has no particular protection as good farmland.

Of course, the land in the middle of the island is largely forested. But two sizeable fields in this area with land of statewide importance have recently been cleared for farming -- the Bisharat field and Second Wind Farm/Durgin land. Several other parcels of land on the shore that are open also might be used for crops -- the Dayton conservation easement, the Silin/Lukacs land, the Doughty/Tellinghuisen field and the Harris and Shelby Putnam field. It would certainly be possible to grow vegetables on plots of one to ten acres. It would also be possible to have modest numbers of cows, sheep or goats. Several of these fields also have a southern exposure, so that they get stronger light.

² Someone asked how the soil survey had been done. Beth said she thought it was done in the 1940s and 50s. Thea said it was done by having field workers take core samples, but she did not know how close to each other the samples were.

Some kinds of crops can be grown on forested land, and work is being done on exploring this. Cutting trees is hard work and stumps are not allowed in our brush dump. We would need to have an economically viable use for the wood to make it attractive to clear land for farming.

There is a lot of interest in small farms now. It goes with the growing interest in eating seasonally and locally. So vegetables grown outdoors and in greenhouses, cows, sheep, goats, chickens, turkeys, orchards, small fruits like raspberries, blueberries, strawberries and maybe cranberry bogs would all be feasible crops.

On the other side of the equation, land on Chebeague is very expensive. It may be possible for someone who wants to farm to rent land economically. Indeed, this can be mutually useful to the farmer and the land-owner. Grazing, for example improves pasture. Goats eat bittersweet and poison ivy as well as other things. On the Higgins farm, the conservation easement that allow farming might make more land available.

Raising ruminants is also a possibility. The land required per animal depends both on the animal and on the nature of the soil and its moisture. Two animals per acre might be in the ballpark, but it is important to understand that it requires four times the basic amount of land so the animals can be moved around to avoid over-grazing in any given area. Also fencing is required and electric fencing does not work on the thick coats of sheep unless it is raining. Some sheep are even bred to be able to graze on wet soils. Chebeague has no predators that would bother ruminants – no coyotes, and foxes mostly eat rodents.

In relation to cows, some of the states in New England have modified their dairying regulations so that it is more possible to have small herds on non-industrial farms. Also some people have been raising cows that do better in cold climates than usual dairy cows; cows that can stay outdoors in winter. It might even be possible to return to a historical practice and use Bangs Island for grazing. It belongs to the state. It has raccoons now so it is not a bird island. Stockman is a major nesting place, so it is not suitable for grazing.

Orchards could also be good on Chebeague. There are still many apple trees left from past orchards. In addition, the climate is moderate enough to grow peaches. Christmas trees for on-island cutting is another possibility.

Probably the major issue with the idea of returning to farming is finding people who are willing to do the hard outdoor work that is involved.

Issues

Do Chebeague residents want a return to agriculture as a part of Chebeague's real economy?

What kind and scale of agriculture – animals, cropland, both?

How would this fit into the definition of rural areas and open space in the Plan

State guidelines:

Where are there undeveloped parts of the Town with good farmland?

How are they protected?

What policies would the Town need to make this an attractive economic opportunity for farmers?
How could this get started without major investment in land?

Who would do the spadework about arranging for the use of existing land?

What other investments would be needed. Should the Town help?

What would it take to clear more land?

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The Higgins Farm

Woodland Vegetation Inventory –

A number of people contributed to this inventory –

Leila Bisharat
Mabel Doughty
Specs Eaton
Philip Jordan
Sheila Jordan
Peter Olney
Rob Prescott
Thea Youngs
Chuck Varney
John Wilson
Resource People
Ken Canfield – Maine State Forester Gray
Richard Morse – Maine Forest Service Augusta
Roger Berle – Cliff Island
Dick Calder – Chebeague
Tom Calder - Chebeague
Dickie Clark – Long Island
Nancy Jordan – Long Island
Shey Conover – Island Institute

Cathy McNeill photographs
Thea Youngs maps and GIS documentation

Cathy Mac Neil took four CDs of wonderful pictures of forest vegetation. These help us recognize the extraordinary woodland vegetation that exists on the islands



The group held open working meetings, collected maps from off-island sources, reviewed Town records, collated relevant Town maps, went on site walks with the State forester. The GIS data for Wind Energy was provided by the Island Institute

State Guidelines on Forestry

The State's goal is: To safeguard the State's agricultural and forest resources from development which threatens those resources.

Does Great Chebeague have "forest" in this sense? This would mean extensive woodlands, larger than ten acres which is the smallest area that can be eligible for the State Tree Growth Program. Chebeague has a total acreage of 1,926 acres. There are few stands of timber on individual parcels of land on Great Chebeague that are more than ten acres, with trees more than 100 years old, for example the land contiguous to Second Wind Farm.

By and large the woods on all the islands are at least second growth, and some areas may have been cleared more than once. Up to the end of the 19th century Great Chebeague and a number of the outer islands such as Bangs and Stockman were virtually entirely cleared of trees. Then as farming declined in the early part of the 20th century, the forest began to reestablish itself around houses and in unused fields. So much of this second growth is between 50 and 100 years old now.

Indeed, the spruce trees on the island are reaching the limit of their growth, so much of Chebeague's forest is at a point when it should be harvested. Bark beetles are attacking the conifer trees and the beeches. On the mainland the trees could live longer, but in the island climate, the limit is about 100 years. On the other hand, the tree canopy covers almost all of Chebeague. As the land cover map in the agricultural inventory showed, there are relatively few open spaces.

Potential of the land

As Map 1 indicates, land that has soils that are good for growing crops are also generally good for growing trees. Now much of Great Chebeague is wooded. The trees include:

- White Pine – rare elsewhere – once the dominant species

- Norway Pines – valued – not native –

- Hardwoods

 - more around the littoral – interspersed with soft woods

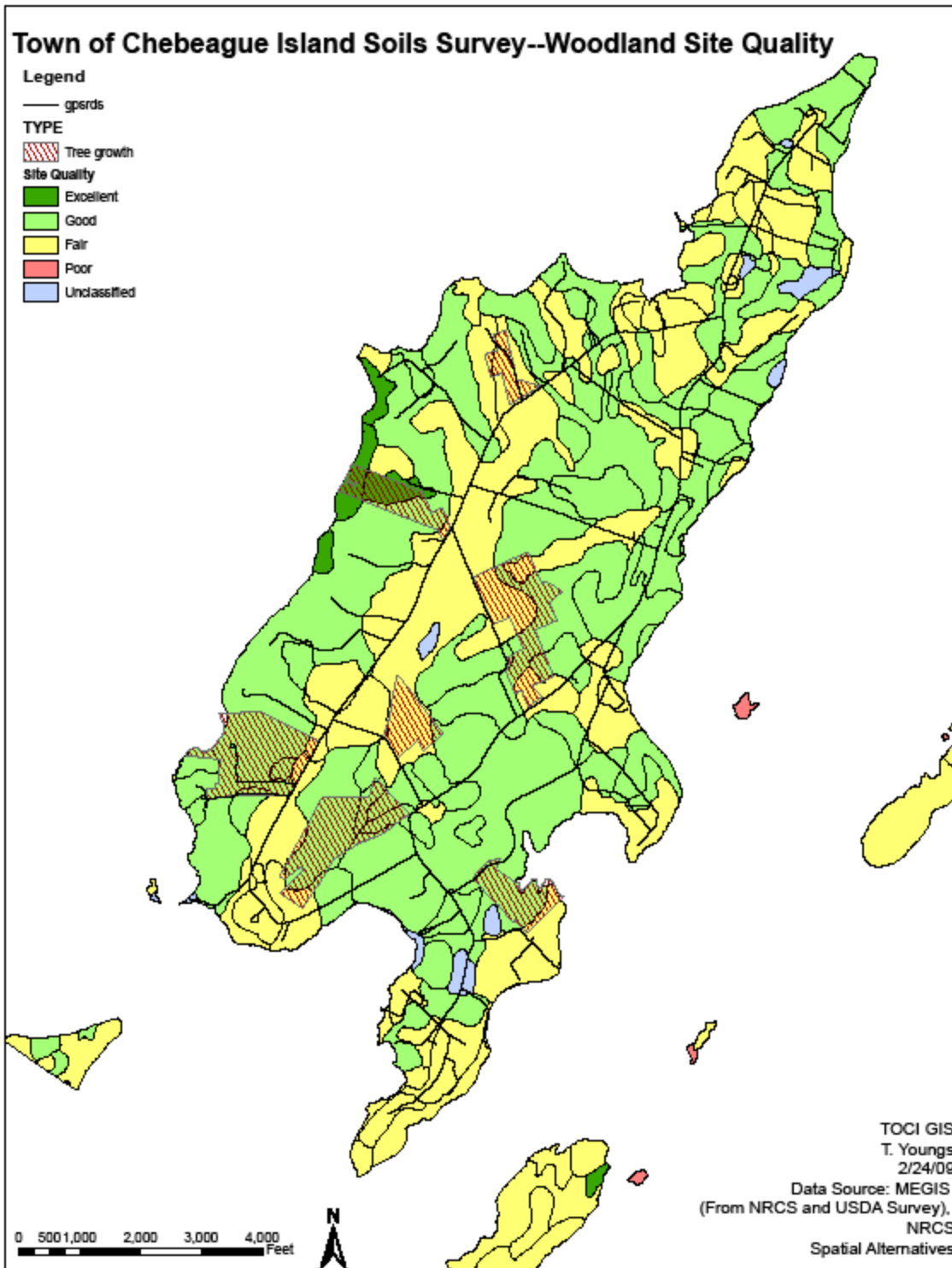
- Ash, yellow and white birches

- Horse Chestnuts – at old farmsteads

- Maples – including sugar maples – scattered, especially along the perimeter of old farms

- Beeches – special locations

Forests are fragile.



Map 1: Soils Suitable for Tree Growth

History of Forestry in the Town of Chebeague Island

The islands were clear-cut in the 17th century. When Longfellow wrote, Chebeague, Bangs, Stockman, Stave, Ministerial and Bates were no longer wooded

I have this day seen the choicest timber cut down and sawn into staves. Transcient men come down in gangs and cut from the islands; of which there are now nineteen on Chebeague and several vessels cutting their load” Capt. James Parker, N. Yarmouth

‘So great an abuse did this become that [they] were forced to order that no timber was to be cut from lands...except what was need by the inhabitants for domestic use or for building their houses’

W.H. Rowe. Shipbuilding Days in Casco Bay 1727-1890

The trees were used for a variety of things from pipe staves to clapboards: white pine for masts, spars and clapboards; oak for ships knees, hemlock for tanning. In 1753, 1344 tons of masts were shipped in one year. In 1826, one tenth of the World’s shipping to Havana went from Portland – wood was used in many aspects of this trade. By mid-century there was no forest growth on the islands – e.g. Bangs Island divided for summer pasture.

By late 19th century Great Chebeague had very little firewood and farmers had small wood lots that they prized. There are still some of these wood lots on Firehouse Road. When the farm fields were abandoned or subdivided into summer house lots, the trees returned in many areas. The shoreline was still cut to provide views for cottages.

Bangs was cut over and grazed for many years but then was replanted and is now covered with trees. Hope Island has been clear-cut several times and is being cut now. No information is available on the past pattern on Bates and Ministerial.

At this point there is relatively little use of the island forest resources. Trees are cut to clear land for building and for landscaping. Fire and wind damage claim some trees. Chuck Varney has been milling wood and it has been used for sheds, other buildings, wharves and benches. Local wood is used for boats, floats, pilings, breakwaters and small wharves. But most people who build, buy their wood on the mainland. There is also now an increasing demand for firewood.

Few Chebeague residents know how to manage a forest, and there is little labor on the island to do the management or cutting. On Cliff and Long, after the Patriot’s Day storm, the people who cleaned up the downed trees came from the mainland. This all suggests that there is a lot of waste of wood resources and missed opportunities for income generation and energy production on the island.

Woodland Ecology

The long fingers of the sea comb through island networks of air and soil to create special worlds not often found on the mainland”

Protection of Woodland Vegetation P. Conkling. Islands in Time. p.87



There are unique micro-climates and woodland habitats on the islands that should be protected. Because of the salt wind, the trees of the boreal climate tend to get burls. The fog creates a humid atmosphere that encourages mosses and fungi. Because the climate is moderated by the Bay, there are large numbers of early wildflowers. The availability of groundwater and the deep soils on Great Chebeague encourage tree growth. To protect these areas we need to protect natural regeneration of the forest.

Forest as a Fire Hazard

Since 1985 there have been seven forest fires on Chebeague, burning a total of 2.8 acres. They were caused by burning debris, by children, and by an out of control campfire. Blown-down trees, particularly since the Patriot's Day storm in 2007, are common, and there is public discussion of the danger of forest fire.

As the second-growth forest replaced open farm fields in the first half of the 20th century, Chebeague residents got used to living in the woods. The trees provide privacy, shade and beauty. But they also increase the threat of forest fires. Thea Youngs' 2008 analysis of the danger of wildfire on Great Chebeague found an average risk at the low end of the "high" rating, where the ratings ranged from low to very high. Some of the rating depended on how difficult it would be to fight fires on the island, and the rest depended on the nature of the vegetation and the houses.

A significant risk factor is how close trees are to houses. Only 6 of 102 house lots surveyed had from 70 to over 100 feet of cleared space around the house, significantly reducing the danger from forest fire. Two thirds of the houses had less than 30 feet of cleared area, and many of these houses were surrounded by high risk vegetation such as conifers and stands of trees with a dense understory of bushes.

On the other side, the state forester said that because of the island's damp marine climate, the danger of fire is not as great as has sometimes been feared because dead trees are broken down fairly quickly by lichens and mosses.

Woodland Protection

Trees are protected in a variety of ways.

In the **Shoreland Zone** harvesting of trees is severely limited in order to reduce runoff and erosion by protecting the vegetative cover of the land. Conserving the natural beauty of the forest is also a purpose of the law. Logging is highly regulated. People with houses are strictly limited in the amount of cutting they can do within 75 feet of the shore to have a view of the water. No more than 40 percent of the total volume of trees over 4 inches in diameter may be harvested in any ten-year period. No vegetation shorter than three feet can be removed. However, the lower third of the branches of trees can be pruned.

597 acres of the Town are in the Shoreland Zone. 349 of these acres are on Great Chebeague. 18 percent of Great Chebeague is in the Shoreland Zone.

A number of Chebeague residents have land in the **State's Tree Growth Program**. The minimum size parcel is 10 acres. There are 47 parcels in the Town or 8 percent of the acreage, that are larger than ten acres. Four of them are more than 40 acres – John Wilson's land, Hope Island, The Ballard's "back forty" and Bangs Island which belongs to the state. Only the Ballard land is in Tree Growth. In the Town less than 8 percent of acreage, less than 150 acres, is in Tree Growth.

The State requires owners to have a management and harvest plan prepared by a registered forester for their land. It must be reregistered every ten years. The purpose is to produce a continuous harvest of trees. There is no minimum income requirement for this forestry as there is for the State's Ag land protection program, but the owner has to cut a certain number of cords of wood, as defined in the harvesting plan.

In the Town of Chebeague Island, no areas are really harvested according to the Tree Growth Plans. In part this is because monitoring of the plans is a local responsibility, But more important, it is difficult for land owners to do the harvesting and to get the wood off the island. So the issue here is how to turn a problem into an opportunity.

An estimate was made of the cordage that is presently produced. About 100 cords are cut for firewood – 75 percent by Chuck Varney and 15 percent by Dick Calder. None of this wood comes from tree growth land. She estimates that 100 cords more of soft and hard wood could be produced if woodlands were managed according to the plans that are in place and harvested selectively.

But Tree Growth does not mean permanent protection. It is possible to take land out of Tree Growth by paying a penalty equal to the taxes that would have been paid on the development value of the land. During the past 20 years, the Bisharats cut forest on Littlefield Road and took the land out of the Tree Growth program. It is being used for agriculture, but is zoned for

residential use. Land on Schoolhouse Road has also been taken out. These parcels included 21 of the 178 acres then in tree growth.

Conservation areas protect the land in perpetuity. The only parcel with a conservation easement that is wooded is Deer Point.

There are also two parcels on Chebeague that are enrolled in the **State Open Space Program**, one of which is forested. This program give the landowner a property tax reduction proportional to the degree to which the land is permanently protected and to the degree that the public is allowed access to it.

There are also individual or small groups of trees that may be worth preserving – ancient maples near old farmhouses, heritage fruit trees, large beeches. It would be useful to do an inventory of them and to share scions of heritage fruit trees.

Public ownership can protect forest. In the case of Chandler’s Cove Beach, one of the conditions placed by Mabel and Sanford on its sale to the Town was that it not be cut.

Issues and Opportunities

At present people on the island largely respond to crises in the woods such as blow-downs from storms. We could make better, more systematic and efficient use of our forests.

The State Forester who came out to look at Great Chebeague’s forest said that the best use of the land would be for agriculture. But the issue is how to get to that. It takes a lot of effort to clear land, especially since the stumps can’t be taken to the Dump. If land clearing were to be encouraged, it would be useful to have a stump pulverizer available on the island.

The wood could be used in furnaces for public buildings.

In addition, for areas that would not be cleared, the basic need is for planned management for selective harvesting. The wood could at least be used for firewood. There are some people on the island qualified to do the management and cutting. More people who know about this might be encouraged to come out here.

It would be useful to have a viable, registered fully operational sawmill on Great Chebeague. Chuck Varney has an existing fixed sawmill and Kim Boehm has a small mobile one, but there is a need for special equipment that would make selective cutting more efficient. Also there is a need to have regular information about, and ties to, market opportunities off the islands. This was one of the problems that Long and Cliff Island ran into when they wanted to clean up the Patriots Day storm damage. They had to hire off-island people who clear-cut rather than cutting selectively.

In all these cases where forests would be cut, either clear cut or cut selectively, there is a need to use Best Management Practices for the forestry. It is important to protect the soil and natural resource areas.

Forests can also be a tourist attraction. We have no inventory of the unique forest habitats. Doing this could be useful.

One threat to the islands' forests is invasive species. Bittersweet is particularly bad because it is so widespread.



Bittersweet engulfing winterberry and trees

Opportunities for use of forest products

Alternative energy – large wood-burning furnaces, public and private

Jobs from planned management of woodlands

Tourism

One key to making more use of the Town's forest products is to work together proactively to manage forest resources all over the island. No single land owner or individual has enough land,

control or capital to make forestry work. Roger Berle on Cliff Island lost \$120,000 over the years on his sawmill operation. But a cooperatively owned sawmill might work.

Another key may be using the wood produced on the island(s). There are some people who produce high-end products from wood already – Chuck Varney, David Scrace, Doug Damon, Emery Doughty, and Anthony Gomez. It might be possible to have more work that adds value to the wood. It could be useful to have help with marketing, not only on the island but at craft fairs and on the internet.

Chuck Varney has also suggested producing timbers for timber-framing on the island – maybe even as kits. It took 13 trees, mostly spruce, to create the framing for Sky Yenko’s house. This kind of building might be less expensive than stick-built houses. Chuck has made a list of equipment he would need for this.

Overall, there is a need to have balance between the choice of clearing the land and harvesting the wood sustainably.

Issues

Does Great Chebeague have forest suitable for harvesting?

Spruce trees have reached maturity, should be harvested.

Valuable trees?

Areas large enough to make harvesting viable?

What would be involved in managing lands for harvesting?

What infrastructure would be needed for harvesting?

Could forest management and wood products produce jobs on Chebeague?

Is undeveloped land more valuable to the island as managed and harvested forest, as farm land, as house lots, or protected natural areas?

Is the danger of wildfire something the Town should be concerned about?

References

William Hutchinson Rowe. *Shipbuilding Days in Casco Bay 1727-1890*.

Conkling. *Islands in Time*.

Thea Youngs. *Wildland-Urban Interface Communities at Risk: Hazard Assessment and Mitigation Strategies, Chebeague Island ME*. Maine Forest Service, 2008.

Critical Natural Areas

The Town of Chebeague Island is rich in natural habitats, including ones defined by state law as “critical” because they are essential to wildlife particularly, rare and endangered species. These areas and the animals, birds and plants in them have intrinsic worth. They are also useful to the people of Chebeague, since they are the foundation of much of the Town’s attraction as a vacation destination. Both year-round and summer residents and visitors find critical natural areas to be places of particular beauty. As indicated in the discussion of marine resources, Chebeague’s waters, including its marine wetlands, are a natural habitat of state-wide importance for fish and shellfish. They are also critical for many kinds of birds and for a number of mammals. So identifying and understanding the ecological function of these natural areas is central to the comprehensive plan.

The Town’s islands also include many distinct kinds of natural habitats from mixed evergreen and hardwood forest to open meadows, beaches and seabird nesting islands. Large undeveloped areas are essential for the survival of unusual or desirable plants and animals. It is because of these diverse natural areas that we think of the Chebeague as “rural”. Land features that come under the general heading of critical natural habitats include wetlands of all kinds. These impound rainwater and runoff, allowing sediments to settle and filtering out pollutants. They also recycle nutrients and provide important habitat for animals, birds and plants. Another major critical area is the shoreland including its sand and cobble beaches, bluffs, wetlands, floodplains and rocky shores. Finally, scenic vistas are important natural features for year-round residents and visitors alike.

In addition, as a practical matter, many of these critical natural areas play an important role in absorbing and, to some degree, mitigating the impact of the strong ocean storms that strike the islands. Storm waters in road-side ditches and streams run off into inland and coastal wetlands, which allow the sediment in the water to settle and release the waters gradually. Beaches, and offshore eelgrass and seaweed beds absorb the energy of the waves, reducing erosion. The Town of Chebeague Island has both a Hazard Mitigation Plan which is part of the Cumberland County Hazard Mitigation Plan, and a Disaster Plan. Both of these plans have been reviewed and accepted by FEMA, so the issue of planning for storms is dealt with lightly in this Comprehensive Plan. But both the threat of natural events such as forest fires, and some of the protections from events like storms are the result of the town’s natural habitats.

Shorelands

The place where the ocean meets the land is a complex natural area. It includes land in the tidal zone and land above the high tide. Use of the land 250 feet horizontal distance from the upper edge of the tidal zone is regulated by the State’s mandatory Shoreland Zoning Law. Its purpose is to:

. . . to prevent and control water pollution, to protect fish spawning grounds, aquatic life, bird and other wildlife habitat, to protect buildings and lands from flooding and accelerated erosion, to protect archaeological and historic resources, to protect commercial fishing and maritime industries, to protect freshwater and coastal wetlands,

to control building sites, placement of structures and land uses, to conserve shore cover, and visual as well as actual points of access to . . . coastal waters; to conserve natural beauty and open space,; and to anticipate and respond to the impacts of development in shoreland areas.

As a town made up of 16 islands, Chebeague has many miles of shoreline. The shores of the Town's developed islands are prime habitat for people, particularly summer people. Great Chebeague has about 170 houses along its 13.15 miles, an increase of 18 since 1998. Some coastal areas are intensively used for marine industry. The Boatyard, the two public wharves and the Bennett Cove barge landing area are only the most obvious. Eight areas of Great Chebeague are designated as Commercial Fisheries and Maritime Activities zones. Even with all this human use of the shore, many wild areas survive that are difficult or impossible to develop or that have been protected for public enjoyment.

The shore is characterized by specialized natural features that help to protect the coastline from excessive erosion, and provide habitat for particular animals, plants and birds. In some cases these areas may be special or fragile enough to require protection from any further development. The distinct shoreland habitats in the Town of Chebeague Island include:

Beaches:

Beaches are a very dynamic environment. Their shape changes with the winds and storms of the changing seasons. The gentle winds of summer bring sand onto the beach, while the waves of strong storms in the winter erode the beach, taking sand from the upper beach or first dune and dragging it back toward the water, flattening the beach. New construction on beaches in Maine is not permitted by State law.

Chebeague does not have large sand dunes. No beach or dune maps are listed in DEP's Beach and Dune Geology Aerial Photos which show only the largest beaches on the mainland. But any beach has at least a berm or ridge at the upland edge of the beach. This berm needs to be stabilized by vegetation such as beach grass, beach pea and poison ivy.

DEP regulates development in coastal sand dunes under Chapter 355 of the Natural Resources Protection Act rules.

Beaches are habitat for surf clams. Horseshoe crabs come up from the sea to lay their eggs. Piping plovers and least terns, endangered species, nest on beaches. In this open habitat, these animals are very vulnerable to disturbance, often completely unintended, by people and dogs enjoying the beach as well. The tidal wrack provides cover and food for beach fleas which are an important source of food for migrating birds such as sanderlings and semipalmated plovers.

In the Town of Chebeague Island, most beaches are privately owned. Hamilton and Rose Point beaches are examples, and only part of Chandler Cove beach is owned by the Town. Legally, private ownership may extend down to the low tide line, at which point the State owns the submerged lands. However, property deeds vary, so some owners may own only to the bank or only to the high tide line. In addition, since the 18th century non-owners have had access to the intertidal area for "fishing, fowling and navigation. Since these have all been real activities on

Chebeague, residents have traditionally used the shore, sometimes with explicit permission of the land-owners. Because use of the shore for recreation is not highly intensive on Great Chebeague, tradition has continued to allow public access in many areas, and in some cases this access has been formally protected. Hamilton Beach, though essentially private, has public access points at several places and is much used for swimming and walking. Much of Chandler's Cove Beach, including the rights to the shore and flats, is owned by the Town as a park. Indian Point and the Little Chebeague Bar are under easement to the Chebeague and Cumberland Land Trust. Parts of both are zoned Resource Protection.

Coastal Wetlands:

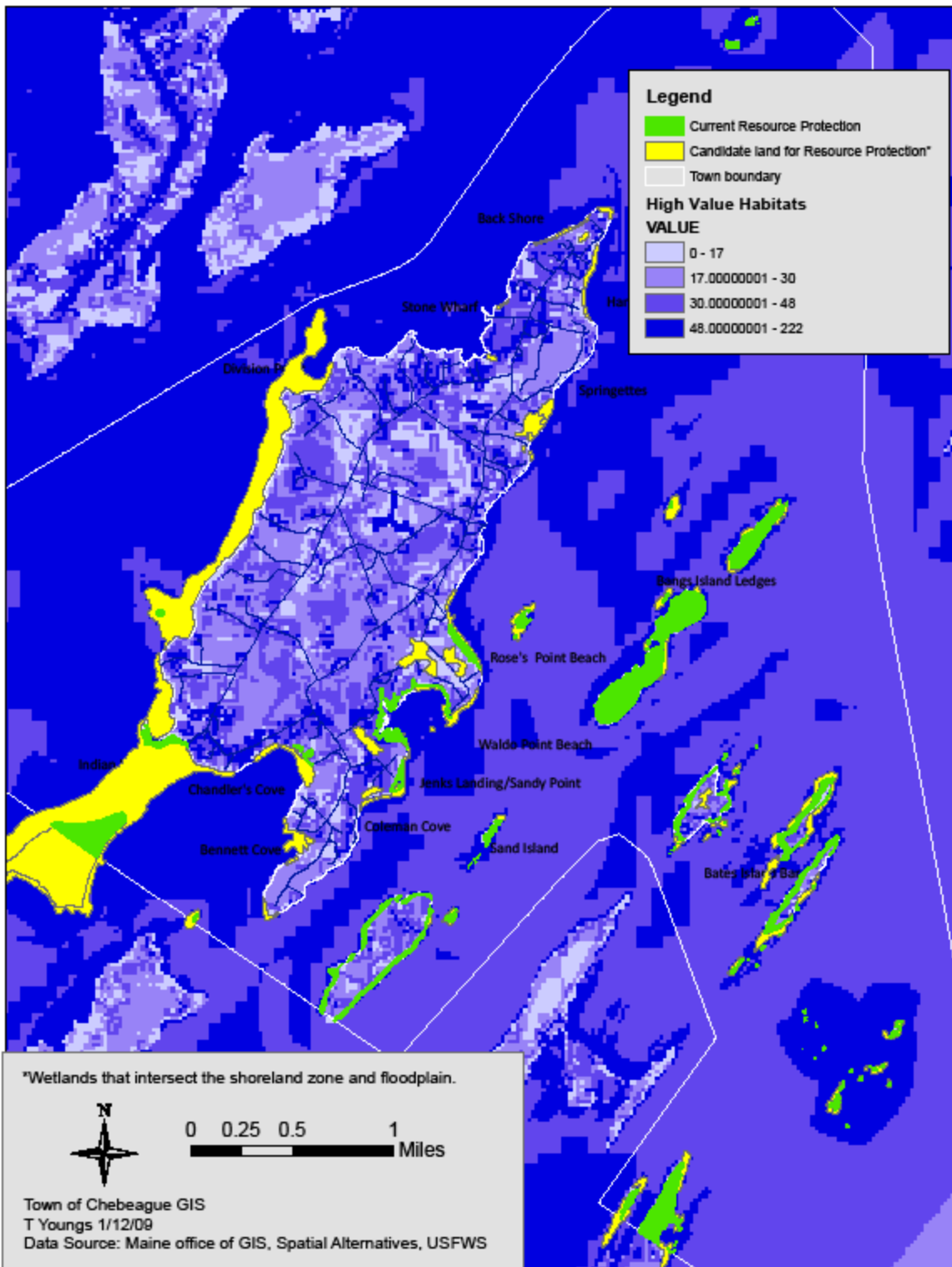
There are three quite different kinds of wetlands in the shoreland area. Those that are already protected are shown in green on Map 1, while those that are not are shown in yellow.

Tidal wetlands that are found in the intertidal areas along the back shore of Chebeague, across and around Little Chebeague and in areas around all of the outer islands. They are characterized by floating or submerged aquatic vegetation. They provide control of runoff and provide eelgrass, finfish and shellfish habitats.

None of Chebeague's islands have the kind of large tidal marshes that are characteristic of estuaries along the mainland coast such as Scarborough Marsh. But narrow, fringing marshes are common. Shallow Johnson Cove is our largest version of such a marsh. The cove is surrounded by a low muddy bluff. The strength of wind and tidal surges is reduced by the shallow water in the cove. Streams and storm runoff create wandering gullies through the saltwater marsh grass, carrying the mud from the bluff out across the tidal flats. This is currently the Town's best habitat for clams.

Coastal freshwater wetlands, by contrast, are typically behind beaches where a berm or small frontal dune is formed at the upland edge of the beach, stabilized by beach grass or other plants including beach pea and poison ivy. Behind this berm at Springettes, Rose Point, Sandy Point, Bennett Cove, Chandler's Cove and Indian Point, fresh water from the aquifer as well as from streams and runoff accumulates. In many cases this water initially formed ponds that were kept open as ponds by farmers as long as the land was used for grazing or cultivation. Over the years "emergent" vegetation such as cattails have grown in the water and as the plants catch sediment from runoff, gradually bushes also have grown in, creating scrub/shrub wetlands which then merge into forested wetlands. All of these coastal wetlands are in the 100 year floodplain. While they may be breached in big storms, these wetlands generally absorb heavy runoff and keep it from going directly into the Bay, allowing sediments to settle out of the water.

These wetlands also provide habitat for island animals and birds. Almost the entire coastline of Great Chebeague as well as most of the shores of the other islands are designated as both "significant tidal waterfowl/wading bird habitat" and as "high value habitat" for the U.S. Fish



Map 1: Wetlands in and not in the Resource Protection Zone

and Wildlife Services' 91 Priority Trust Species of fish, wildlife and plants. In-shore, the wetlands at Springettes, Sandy Point, and Johnson Cove share in this latter designation. Herons, egrets, yellowlegs, whimbrel, redknobs, black ducks, Canada geese, eiders, Atlantic brant, sanderlings and other birds use these wetlands for breeding, feeding, roosting and migration staging areas.

By State law, wetlands such as these, except where they are already developed, are expected to be placed in Resource Protection under the Shoreland Zoning Law. The state law particularly mentions marshes of high value for waterfowl and wading birds, and wetlands in the 100 year floodplain. The wetlands at Rose Point, Chandler's Cove and Indian Point are formally protected, whether zoned as RP or not. At Rose Point the houses are all in-shore of the wetland and the wetland itself is collectively owned. Rose Point, Sandy Point and part of Chandler's Cove are designated as Resource Protection, but Springettes and Bennett Cove have no formal protection.

Rocky shores:

The most spectacular rocky shoreline on Chebeague is Deer Point. The area at the end of the point is under easement to the Chebeague and Cumberland Land Trust.

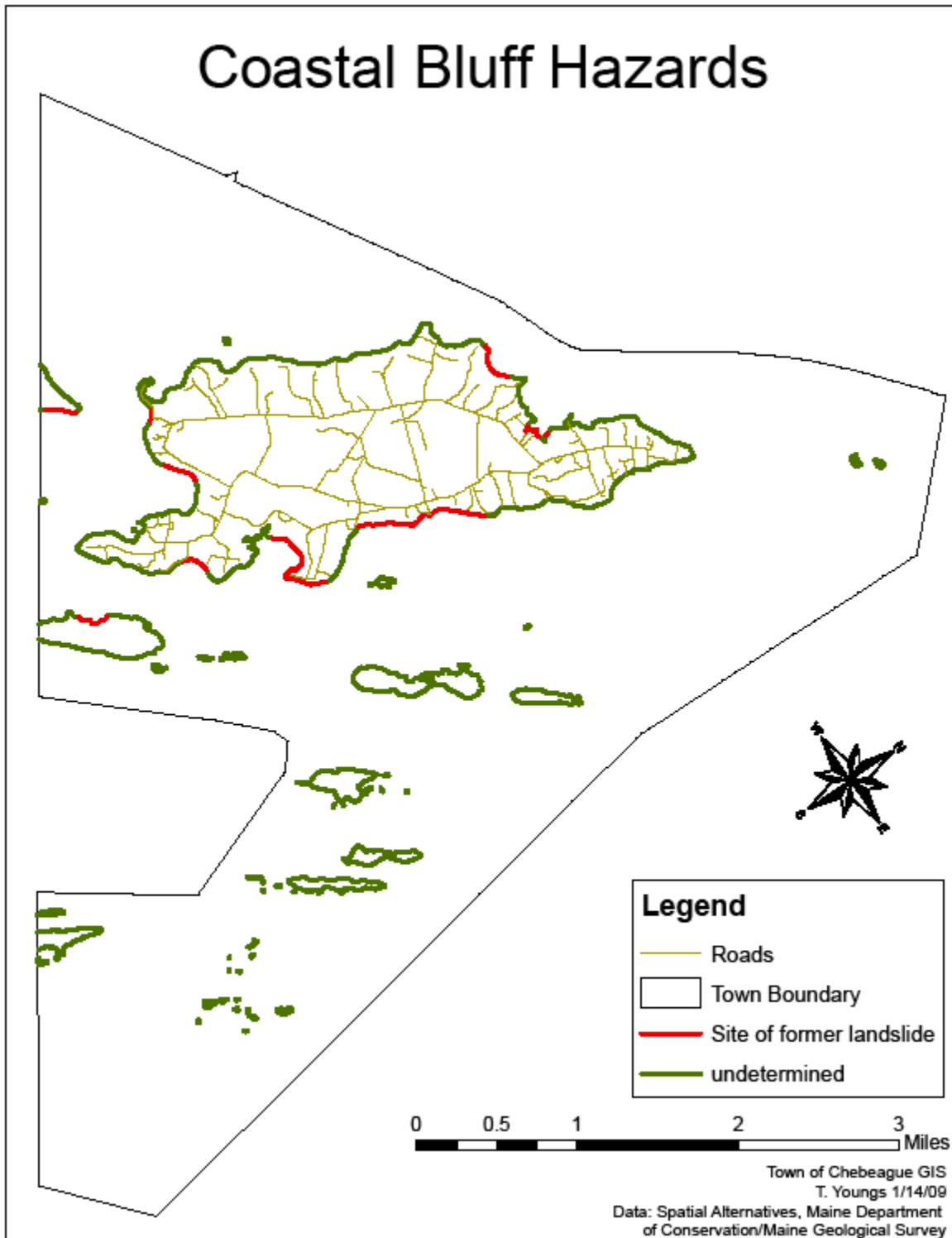
Coastal Bluffs:

The Shoreland Zoning Law also designates as Resource Protection undeveloped areas where there are steep bluffs "adjacent to tidal waters which are subject to severe erosion or mass movement". State maps (Map 2) of coastal bluffs indicate "highly unstable" bluffs in small areas near Artist Point, the West side of Johnson Cove, near Sunset Landing and on the south-east end of Little Chebeague. A large part of the Johnson Cove shore has had previous landslides, as well as the bluffs along Cottage road, on the West side of Ricker Head and on the North side of Hope Island. Larger areas are shown as areas of potential landslide hazard in need of further assessment.

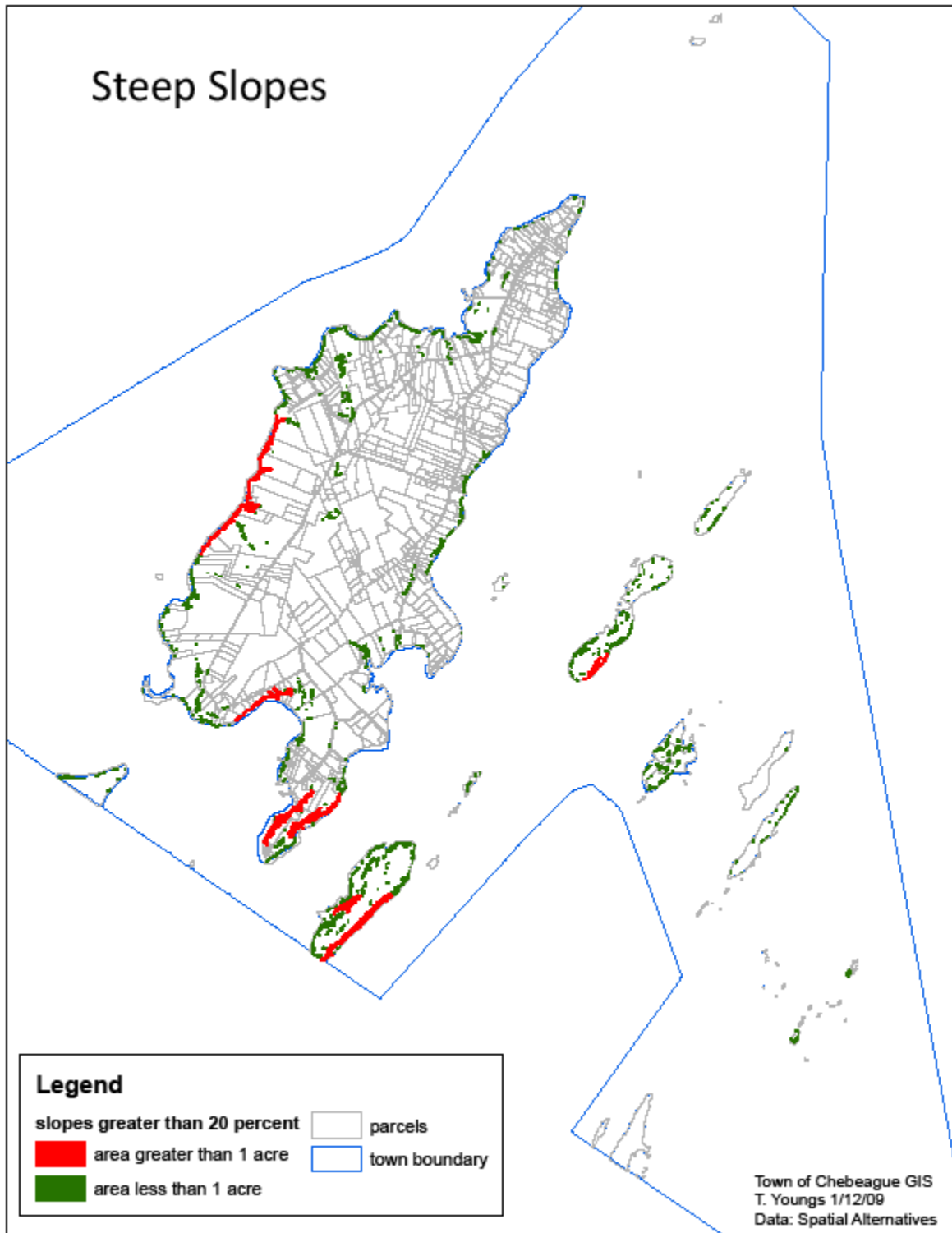
Some of these bluffs also include the remains of Indian shell middens [see historic resources section]

Both rocky shores and bluffs with slopes greater than 20 percent (Map 3) are quite fragile environments. Undeveloped areas of two or more contiguous acres with sustained slopes of 20 percent or greater are expected to be in the Shoreland Zoning Resource Protection district. Both the south and north shores of Deer Point, the bluff along Cottage Road and the bluffs along the back shore from below Division Point to the Wilsons are areas of such steep slopes. Hope Island has areas similar to Deer Point on both of its north and south shores. None of these areas are designated as Resource Protection now. The law requires only land that actually is in the 20 percent slope area to be in RP, and there is some leeway for deciding whether an area is already

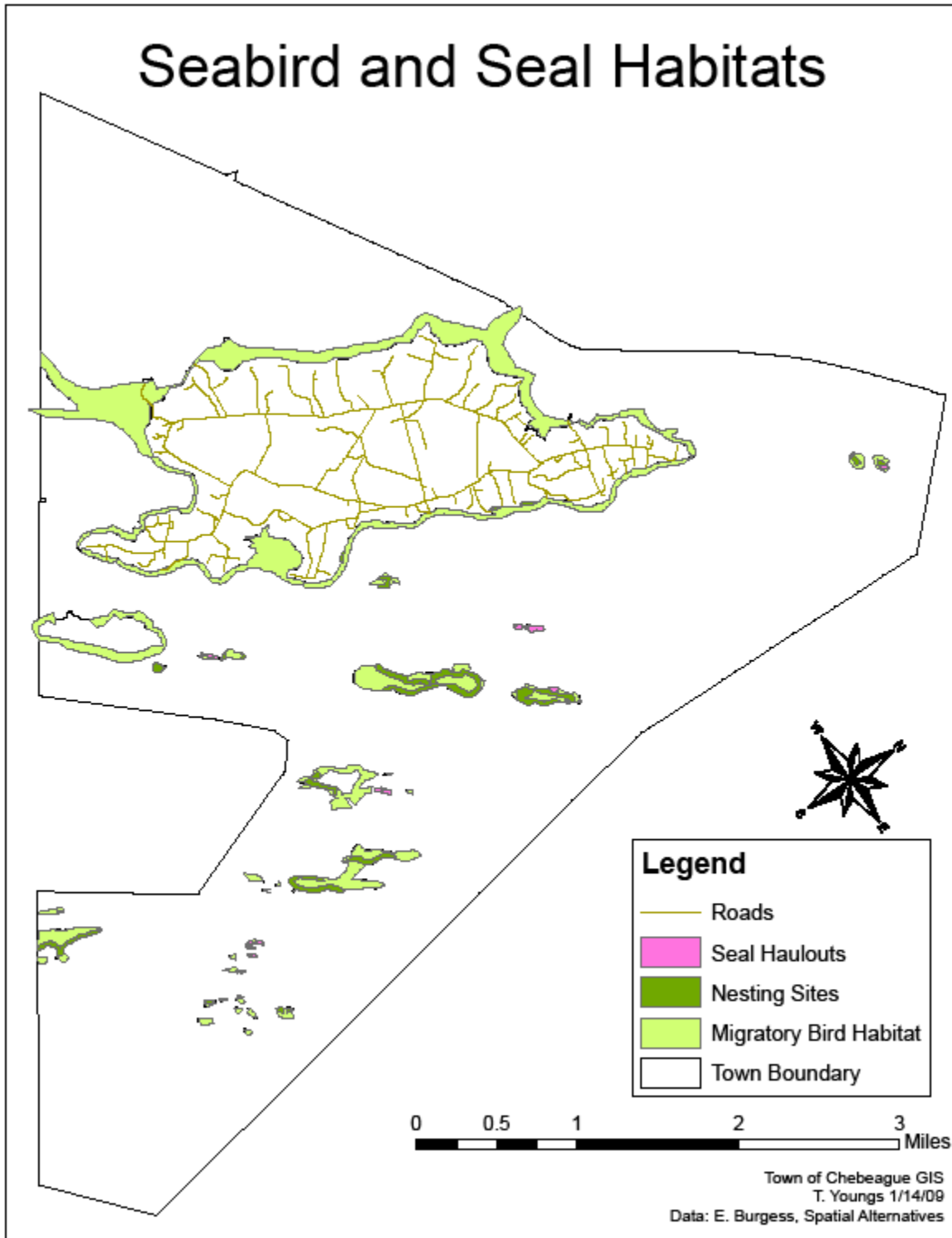
Map 2



Map 3



Map 4



developed – if houses are spaced fairly far apart it may be possible take out an envelope for a house lot.

The Outer Islands

All of the smaller outer islands are completely within the shoreland zone since they are less than 500 feet wide. Hope, Bangs and Stave are wide enough to have areas outside the shoreland. Stockman belongs to the Chebeague and Cumberland Trust, while Little Chebeague, Crow and

Jewell Islands belong to the State of Maine. All the other uninhabited islands – Bangs, Stockman, Jewell and the small islands -- are zoned Resource Protection. The immediate shoreline areas of the inhabited islands – Hope, Stave, Ministerial, and Bates -- are also mostly designated RP.

State maps show Sand, Bangs, Stockman, Ministerial and Upper Green Islands as seabird nesting islands. Ernie Burgess' map (Map 4) adds Jewell, Bates, Stave, Rogues, Crow and Goose Nest Rocks as nesting areas.

Seals are protected under the 1972 Federal Marine Mammal Protection Act, much to the disgust of lobstermen and often the pleasure of summer visitors. Goose Nest Rocks, Mink Rocks, and rocks off of Stave and Sand Islands are seal haul-out areas.

However, the outer islands are not necessarily pristine natural habitats. Several have introduced raccoons and/or mink that do considerable damage to nesting birds.

Floodplain and Other Natural Hazards:

Since Chebeague and the Town's other islands are unconnected islands off the coast, storms with high winds and high tides at all seasons of the year are a particular hazard. These storms result in both flooding and coastal erosion. Especially in areas where trees have been downed by strong storms, there is also considerable hazard from wildfire. In 2007, when it became independent it adopted a Floodplain Management Ordinance developed by SPO's Floodplain Management Program. In addition, with MEMA's help, the Town adopted a Hazard Mitigation Plan that identifies vulnerabilities and mitigation strategies.

Since that Plan was developed, FEMA issued new and significantly different floodplain maps for the Town based on complex FEMA modeling. These generally showed increased risk of flooding, especially driven by high velocity winds. Because of protests by many local communities about the accuracy of the new maps, they were withdrawn. This means that Map 5 is the old one. A new process has been set up by FEMA to work with local communities to continue to develop the new maps. If this process does not involve major research expenditures by the Town, it will provide an opportunity for the Town to work with FEMA to do more work on hazard mitigation planning.

Risks

Among the 37 "hazard events" since the end of WW II listed on page 17 of the County Hazard Mitigation Plan, five were ice storms or blizzards which hit the islands hard, with particular damage to trees and power lines.

Far more (18), however, were hurricanes or coastal storms. These storms bring with them flooding and coastal erosion. Since the Casco Bay islands have always been subject to storms, particularly in the winter, there are relatively few year-round houses in the 100 year floodplain. There are some notable examples of summer houses that seem to dare the storms to take them, but there seems to be more danger to houses from undermining of bluffs than from the direct action of the waves. New buildings that have to be built in or near the floodplain, such as the Post Office/store building at the Boatyard, are required to be built to particular specifications that make them resistant to storm damage.

On the other hand, because two major staples of the island economy are lobstering and vacationing, the Town maintains 18 roads and access points where fishermen and members of the public can reach the shore, and where ferry and barge traffic can on and off-load. There is one Town-owned wharf and a State-owned pier. These roads, access points and wharves are particularly vulnerable to storm damage.

Flooding on Chebeague occurs in low-lying coastal areas particularly on the outer side of the island, facing the ocean. These areas are shown on the FEMA maps as V2, areas of special flood hazard with wave action. Several sizeable areas such as Rose Point, Sandy Point and Indian Point are quite exposed. Other areas such as Johnson, Chandler, and Bennett Coves and Springettes are shown as within the 100 year flood zone but are somewhat less vulnerable.

Waldo Point Beach and Jenks Landing Beach are defined as Coastal Barrier Resources under the Federal and State Coastal Barrier Resources Acts. These coastal beaches and the wetlands and the upland behind them are given a little protection from development because they bear the brunt of storm waters and protect the rest of the shore from erosion. They can be privately developed, but no federal funds – for such things as road construction or National Flood Insurance – may be spent that might encourage their development.

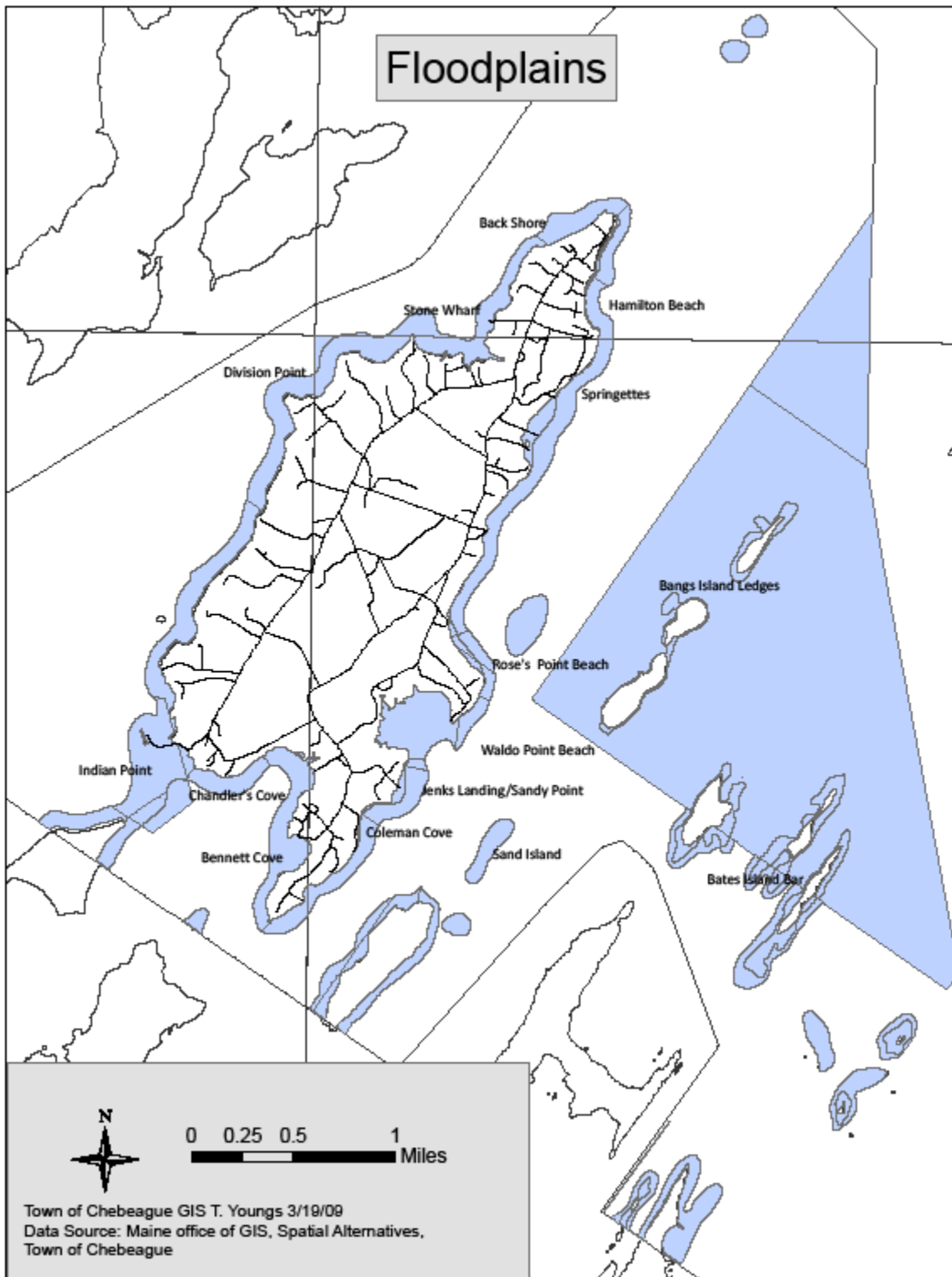
The danger of forest fire is also very real on Chebeague even though there has not been a fire in the past seven years. Seventy years ago much of Chebeague was still open farming land. But this farming ceased before World War II, and gradually most of the island has grown up into mixed hardwood and conifer forest again. A great deal of damage can be created by strong ocean storms in areas of spruce forest such as Deer Point and Springettes, with shallow soils. Strong winds can create entire areas of spruce blowdowns in which the fall of the initial trees triggers the fall of other trees that are no longer windfast. Often the fallen trees are simply left to rot among the live trees and brush, creating an increasing opportunity for forest fire.

More discussion of this issue is found in the Fire Department section of the Inventory on Public Facilities.

So the Town of Chebeague Island Hazard Priorities are:

1. Severe Storm
2. Coastal Erosion
3. Flooding
4. Wildfire

Map 5



Floodplain Mapping

Recently attention in the natural hazard area has focused particularly on flooding because of the development of new FEMA Flood Insurance Rate Maps for the Casco Bay area. When the FEMA maps were released in 2009, communities had 90 days to raise issues about them. FEMA would then respond, and the towns would then have six months to adopt the revised maps and updated ordinances.

The accuracy of the mapping techniques were quickly challenged by the City of Portland and several other Casco Bay towns, who hired their own geologist to do alternative modeling. In the face of these questions, FEMA temporarily withdrew the maps and instituted a new, FEMA/Town collaborative process called RiskMAP to develop amended maps which will then be adopted by the towns.

It is somewhat unclear in January 2011 exactly how this collaborative process will work. FEMA has indicated that it will provide detailed maps and data to allow for the reevaluation of the initial maps. Clearly FEMA expects all local communities to adopt new FIRM maps by 2013, so involvement in the RiskMAP process is essential to the Town.

Upland Areas

Wetlands:

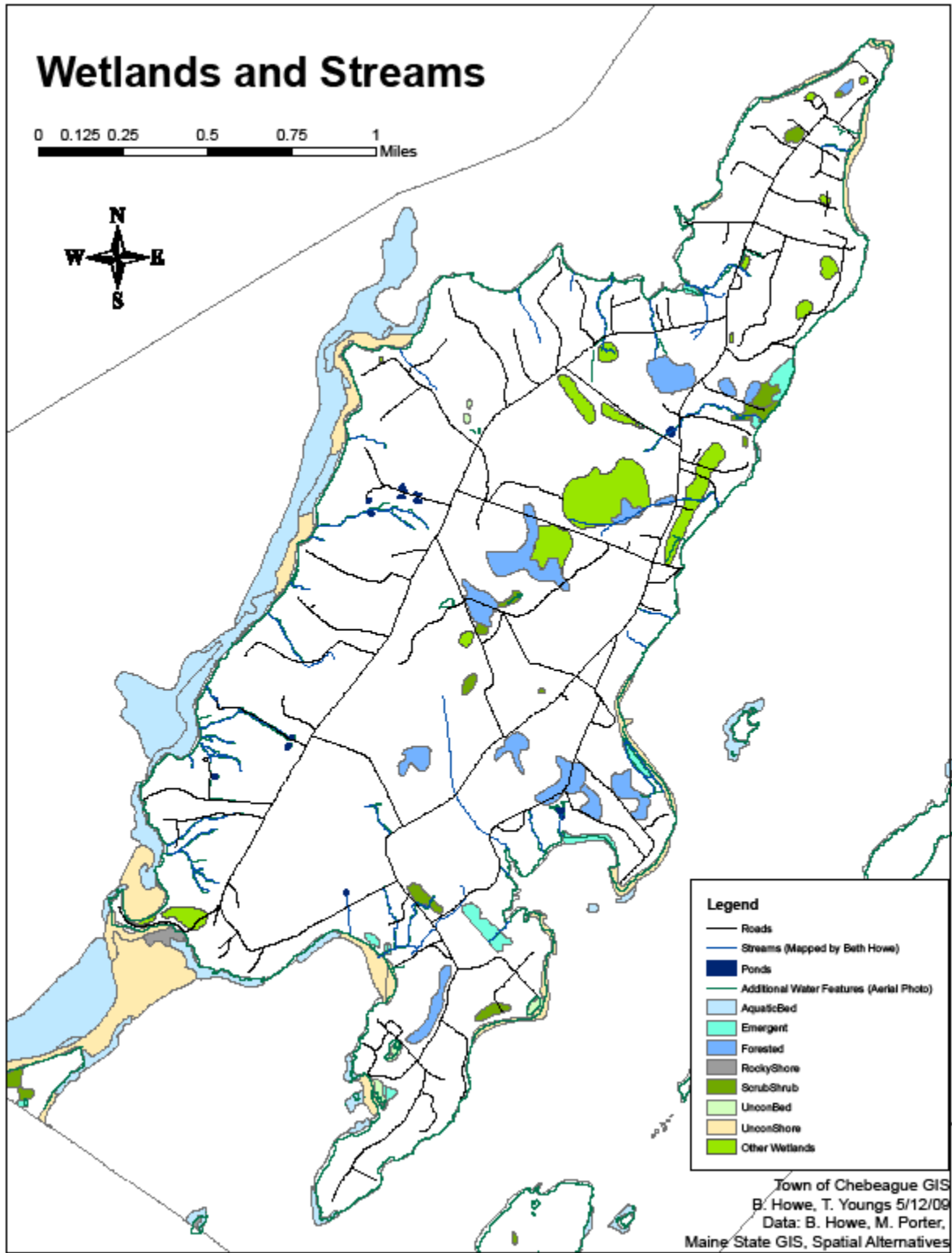
The word “Chebeague” is said to mean land of many springs in Abanaki, and Chebeague has many springs and large areas of hydric soils that can be indicative of wetlands. While, by State law, wetlands can only be minimally filled, and only by permit, generally wetlands themselves are not very practical for development. The same is generally considered to be true for areas with hydric soils. On Chebeague, however, people have been building in areas with hydric soils since the 18th century, and modern septic system technology means that few areas are completely undevelopable. Many Chebeague houses have wet front or back yards, and a careful wetland survey probably would find at least some of these to be true wetlands with wetland vegetation, hydric soils and surface water.

However, aside from coastal wetlands, the National Wetlands Inventory maps only show sizeable areas of wetland in the middle of the island, on Rose Point and in the area around Jenks Road (Map 6). Much of this is forested wetland, though along John Small Road there are areas of emergent and shrub-scrub wetlands.

The wetlands in the center of the island, between Roy Hill and Littlefield Roads, are places where the groundwater comes to the surface as springs as well as areas where rainwater gathers. Since they occur in areas where there is relatively little development, they provide good animal and plant habitat and impound some of the rain that falls before it can run off. But they may not provide much groundwater recharge.

The smaller scattered wetlands further down-slope also provide plant and animal habitat. More than the wetlands in the center, however, they seem to collect rain, allow sediments to settle and pollution to be filtered out. They probably provide recharge to the aquifer. They then feed streams that run down to the shore on the South side of the island. They thus play an important

Map 6



role in improving the quality of the water that runs into the Bay. In performing this function they may well silt up, and unless new wetlands develop to take their places, over time, this function may be lost or lessened.

DEP regulates the alteration of wetlands under the Chapter 310 rules pursuant to the Natural Resources Protection Act. These rules define “wetlands of special significance which include all coastal wetlands as well as freshwater wetlands that contain significant wildlife habitat, are located within 250 feet of a coastal wetland (which covers the wetlands in the shoreland zone discussed above) , or have at least 20,000 square feet of aquatic vegetation, emergent marsh vegetation or open water. To alter more than 500 square feet of a wetland of special significance the applicant must generally get an individual permit from DEP. The standards for getting such a permit emphasize avoidance if there is a practical alternative, minimal alteration or compensation.

Some of the wetlands in the center of the island contain significant wildlife habitat, and some probably have areas of wetland vegetation or open water larger than 20,000. These might be candidates for conservation easements or resource protection zoning.

The streams that run down the North shore of the island do not seem to have wetlands at their headwaters. It would be useful to examine further whether they contain more sediment and drain with greater velocity. Most come out of about the same contour line which suggests that at that elevation there is a geologic layer which causes springs to occur.

There are also small emergent or scrub-shrub wetlands on most of the larger outer islands, formed by natural depressions in the rock.

Vernal Pools:

It is likely that Great Chebeague has some vernal pools, however no survey has been undertaken to identify whether and where they exist. “Significant” vernal pools are regulated as “significant wildlife habitat” under the Chapter 335 rules pursuant to the Natural Resources Protection Act.

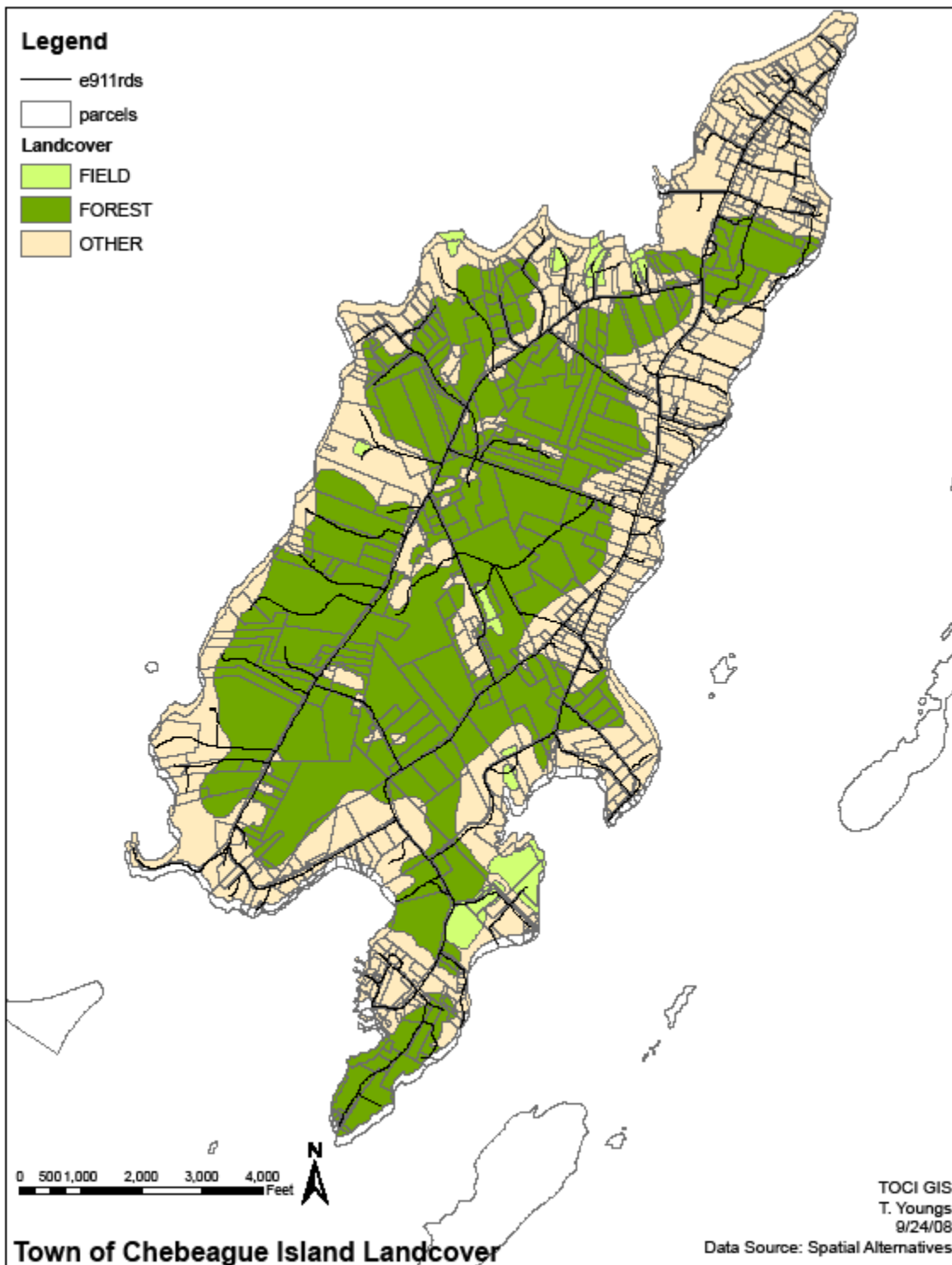
Forest

The landscape of all the islands of the Town is a work in progress. On great Chebeague, in the 18th and 19th centuries, most of the land was cleared for farming and much of it remained that way until as late as the 1920s. As farming declined and many of the farms were subdivided for summer houses, brush and then trees began to fill any spaces that were not actively kept open as farmland or houselots. Map 7 of the land cover emphasizes the developed areas, which often are quite treed as well.

The road pattern has not changed very much since this reforestation began. All the existing roads have been improved by being somewhat widened and paved with gravel and asphalt surfaces, but they were never brought up to mainland standards. Roads that were not improved, reverted to paths.

Chebeague shares with the rest of southeastern Maine forests that mix the conifers of the northern boreal forest with the conifers and deciduous trees of more moderate climates. The

Map 7



more Northerly birch, firs and spruces join the maples, beeches, ash, oaks, hickory, hemlock and white pine of the Eastern deciduous forest. Spruce groves where the soil is thin, red or swamp maples in the many wetlands, oaks and beeches in deeper soils. There is very little old growth, since the island was largely farmed. But the second growth forest provides nesting habitat for birds and animals, and plenteous food from nuts, acorns and pinecones.

The outer islands probably were once forested but were either logged in the 18th century, were occupied and cleared for farms, or were used to pasture animals. Where the soil is shallow, brush has grown up but trees have been slow to follow.

Hope Island is a special case. It was farmed and then, as the home of a summer camp for a private club, was largely allowed to grow up in trees again. Now it is owned by a couple who are clearing much of the land again as a gentleman's farm with domestic animals.

Animal Habitat and Habitat Blocks

The various islands provide quite different animal and bird habitats. Great Chebeague is basically second growth forest, with a few remaining open fields including the Golf Course, that provide some habitat defined as "high value habitat" by the U.S. Fish and Wildlife Service. DEP includes in "significant wildlife habitat" species that are endangered or threatened, high and moderate deer wintering areas and travel corridors (of which none are mapped on Great Chebeague), mapped seabird nesting islands, significant vernal pools, high and moderate value waterfowl and wading bird habitat and shorebird nesting, feeding and staging areas. Some of these have been dealt with already. Chebeague is not categorized as having any endangered or threatened species.

As an unconnected island terrestrial animals have to migrate to get here, have to have mates and have to find suitable habitat to become established. Not surprisingly, Great Chebeague has a smaller number of mammal, reptile and amphibian species than the mainland, and some of these have been deliberately introduced (see Table 1 of species identified on the islands, attached). Red squirrels live unmolested by grey ones. Gardens may be eaten by deer, raccoons and voles but they are not disturbed by woodchucks. Chickens have to contend with foxes but not skunks. Sheep have no predators other than man. When an occasional moose swims out to explore the island, it finds no other moose and habitat that is not very suitable.

At 1,926 acres, Great Chebeague is also not very large for animal habitat. The long-standing pattern of roads means that Chebeague does not have any very large undeveloped habitat blocks. This restriction on habitat size is even stronger on the outer islands, so it is not surprising that they have more limited ranges of animals. On the other side, the lack of animals is greatly to the advantage of the nesting birds.

Despite its limited size, Great Chebeague has a number of areas with relatively sparse development. Because of this, many of the roads between North Road and the shore are essentially driveways, and two of the roads across the middle of the island are dirt. Even the "main" roads are not very wide and because most of the farm fields have grown up in second growth, there are often areas of woods between houses which create corridors for easy animal movement. In the middle of the island, between North and South Roads and between Firehouse

and Schoolhouse roads, there are 436 acres that are divided only by Littlefield and Roy Hill Roads. This area contains 62 houses, many on the main roads that border the area. The average density is seven acres per house.

These characteristics make the island better as animal habitat than its size might suggest, and it is not uncommon to see deer or foxes coming up through the woods, casually crossing the road and disappearing into the woods on the other side. Deer, turkeys, mink and a variety of raptors require “Tier 3” habitat blocks ranging in size from 100 to 500 acres. Fishers, which have been reported on Chebeague, are considered to require Tier 1”, completely undeveloped habitat. For information on what animals a small sample of Chebeague residents think live on the island, see the attached table.

Deer hunting is a traditional sport and source of meat. Hunting season occurs after most summer people have left, leaving many areas of the island lightly populated. Though winters are not as cold as on the mainland, there are several deer wintering “yards” , though they have not been mapped.

Plants

The State Beginning with Habitat maps do not show any endangered plants in the Town of Chebeague Island. This may be because no one has ever looked for them. Carol White said that she had seen a map that indicated that there is whorled pogonia, a rare plant, on Great Chebeague.

As with animals and birds, it would be possible to develop an inventory of native plants by asking people about the presence of various kinds of plants on Chebeague and the outer islands. But the sheer number of possible kinds of plants makes this difficult, unless the survey focused only on the few endangered plants that exist in Maine.

Preservation of native plants would, to some extent, go hand in hand with preservation of various kinds of habitats. This raises the possibility of approaching plant preservation from the opposite side by asking the question of what introduced species of plants are harmful to islands habitats. Bittersweet comes to mind, but it is probably beyond the power of the Town or its residents to eradicate it. Other invasive plants, such as black swallow-wart, purple loosestrife, barberry, Russian olive, nightshade and creeping charlie however, may not be as well established in some areas and might be discouraged.

Scenic Vistas

Scenic places and vistas are not generally thought of as being “useful”. But in a town where a major element of the economy is based on tourism and vacationing, these certainly have economic value. The greater prices for houses with water views is evidence of this. In a deeper sense, though, scenic places and vistas are important to all residents. They are one of the reasons we choose to live on Chebeague rather than some other place. They are an important element that defines the nature of the place. In the case of Chebeague, they are largely rural vistas, whether of buildings in a landscape or views over the water. Loss of these areas would significantly change the rural character of the islands.

Scenic resources on Great Chebeague also overlap with historic resources, since some of our scenic areas are probably built-up areas such as the East End.

The 2000 Plan survey asked residents about what places on the island were special to them and should be preserved. The places that were mentioned the most often were scenic natural areas: Deer Point, Chandler's Cove, Roses Point (all mentioned by more than 80 out of 537 respondents), Hamilton Beach, Bennett Cove, Little Chebeague, the view across the Higgins/Jenks farms, Coleman Cove, Roy Hill Road, Parker's Woods, Indian Point, Division Point, Sunset Landing, and East End Point. Some people also singled out buildings or institutions for preservation: the boatyard, golf course, stone wharf cemeteries, the Chebeague Inn, the Church and other historic places.

This year's survey did not ask specifically about special places or views. But at the Natural Resources Inventory Workshop, people could put dots on a large map showing places that were special to them, and several people filled out more detailed maps with comments about what made places special – the path, the view, the access to the shore. Deer Point, Indian Point and Roses Point were picked most often, and the list was very similar to the one in 2000 with the addition of the Jenks Road marsh, Springettes, Johnson Cove, the woods up behind the Transfer Station and the School.

Issues

Will a continuation of the present pattern of development threaten the existence of natural habitats and scenic features?

How important is preservation of natural habitats and scenic features?

Economic importance

Aesthetic importance

What mechanisms are available for preserving open space, scenic areas and vistas?

Scenic or land easements

Town ownership

Zoning

Economically viable uses of open space and enrollment in state open space, tree growth and farmland programs

Other mechanisms including Historic Preservation

Would they accomplish what residents want to do and at what cost, to whom?

Shoreland Zone:

Should currently undeveloped freshwater wetlands that are also in the 100 year flood Plain be designated Resource Protection areas??

Should areas of steep slopes and unstable bluffs in the shoreland zone be designated as resource protection?

If so, how should this be done?

Inland areas:

- What might be done to preserve animal habitats
 - Wetlands/overlap with policies about surface water/drainage.
 - Sizeable habitat blocks

Outer islands:

- What kind of management should the Town provide, if any?
- What kind of uses should be allowed?

Plants

- Would it be useful to consider any public policy to lessen the threat posed by invasive species?

Hazard Mitigation

- How will FIMA's RiskMap process affect the Town and how should it be involved?
- What planning is needed to deal with other hazards such as bluff erosion and wildfire?

References

Bennett, Dean. *Maine's Natural Heritage: Rare Species and Unique Natural Features*. (Camden ME: Down East Books, 1988).

Kelley, Joseph; Kelley, Alice; and Pilkey, Orrin, Sr. *Living with the Coast of Maine*. (Duke University Press, 1989).

Maine Department of Inland Fisheries and Wildlife, Maine Natural Areas Program, Maine Audubon Society, Maine State Planning Office, U.S. Fish and Wildlife Service, Maine Cooperative Fish and Wildlife Research Unit, Southern Maine Regional Planning Commission, the Nature Conservancy and Wells National Estuarine Research Reserve. *Beginning With Habitat*. (Augusta ME: ND).

Maine Department of Environmental Protection Rules pursuant to the Maine Natural Resources Protection Act, Chapters 310: Wetlands and Waterbodies Protection; 315: Assessing and Mitigating impacts to Existing Scenic and Aesthetic Uses; 335: Significant Wildlife Habitat; and 355: Coastal Sand Dune Rules.

**Table 1: Survey of animals that live in the Town of Chebeague Island
(Does the respondent think this animal lives on Chebeague?)**

Name	Yes	No	Not Sure	Majority
Raccoon	10			Yes
Deer	10			Yes
Seal	8			yes
House Mouse	9			yes
Fox	9			yes
Red Squirrel	7		2	yes
Muskrat	4	1	3	
Beaver	4	2	4	
Cotton tail Rabbit	3	2	3	
Chipmunk	3	4	1	
Skunk	2	5	2	
Rat	3		5	
Meadow vole	2	2	3	
Mink	1	2	5	
Grey squirrel	1	6	1	
European Hare	1	2	5	
Deer mouse	3		5	
Fisher	1		7	
Coyote	0	7	1	no
Porcupine	0	4	3	no
Woodchuck	0	4	4	no
Opossum	0	5	3	
Starnose Vole	0	3	5	
Whales	0			
Bats				
Little Brown Myotis bat	1			
Snakes				
Brown				
Garter				
Turtles				
Sea	0			
Snapping Box	2	1	0	
Frogs				

Spring peepers	2	1	1	
Bullfrog	3	0	1	
Leopard	2	0	2	
Amer. Toad	2	1	1	
Salamanders				
Red backed	3			
Blue spotted	2			
Spotted	1			

Table 2: Birds sighted on Chebeague by Tineke Breed, Beverly Johnson and others

American Bittern	Great crested flycatcher	Horned lark
Red-winged blackbird	Least flycatcher	Common loon
Eastern bluebird	Canada goose	Red-breasted merganser
Northern bobwhite	Snow goose	Merlin
Brant	Red-necked grebe	Mockingbird
Indigo bunting	Evening grosbeak	Black-crowned night heron
Bufflehead	Rose-breasted grosbeak	Nighthawk
Chat	Black guillemot	Red breasted nuthatch
Black-capped Chickadee	Bonaparte's gull	White breasted nuthatch
Double crested cormorant	Great black- backed gull	Baltimore oriole
Cowbird	Laughing gull	Osprey
Brown creeper	Herring gull	Ovenbird
Yellow-billed cuckoo	Ring-billed gull	Barn owl
Mourning dove	Cooper's hawk	Barred owl
Short-billed dowitcher	Broad-winged hawk	Great gray owl
American black duck	Goshawk	Eastern phoebe
Common eider duck	Red-tailed hawk	Black-bellied plover
Long-tailed duck	Red-shouldered hawk	Piping plover
Mallard	Sharp-shinned hawk	Semipalmated plover
Dunlin	Great blue heron	Willow ptarmigan
Bald eagle	Black-crowned	Raven
Great egret	Yellow-crowned heron	American redstart
Snowy egret	Ruby-throated	Robin
House finch	hummingbird	Sanderling
Purple finch	Glossy Ibis	Curlew sandpiper
Goldfinch	Blue jay	Purple sandpiper
Flicker	Junco	Least sandpiper
Alder flycatcher	kestrel	Solitary sandpiper
Great-crested flycatcher	Eastern kingbird	Semipalmated sandpiper
Olive-sided flycatcher	Belted kingfisher	Spotted sandpiper
Willow flycatcher	Redknot	

Stilt sandpiper western
sandpiper
Wilson snipe
Chipping sparrow
Song sparrow
White-throated sparrow
White-crowned sparrow
Starling
Barn swallow
Tree swallow
Scarlet tanager
Common tern
Roseate tern
Brown thrasher
Hermit thrush
Wood thrush
Tufted titmouse
Eastern towhee
Wild turkey
Ruddy turnstone
Veery
Red-eyed vireo
Warbling vireo
Yellow-throated vireo
Turkey vulture
Willet
Flicker
Downy woodpecker
Hairy woodpecker
Pileated woodpecker
Red-bellied woodpecker
Black and white warbler
Black-throated blue
warbler
Black-throated green
warbler
Chestnut-sided warbler
Connecticut warbler
Magnolia warbler
Palm warbler
Prairie warbler
Pine warbler
Wilson's warbler
Yellow warbler
Yellow-rumped warbler
Yellow-throated warbler

Northern waterthrush
Cedar waxwing
Whimbrel
Woodcock
Wood-pewee
House wren
Winter wren
Greater yellowlegs
Lesser yellowlegs

The People of the Town of Chebeague Island

The Town's natural resources would exist whether there were people on the islands or not. We wouldn't think of them the same way, since the way we think about natural resources is filtered through the lens of how people use them. And our use of them in the past has also changed them in significant ways.

So who are "we" who have used these resources? Great Chebeague was both bought from the Abanaki Indians and claimed for various great proprietors in the latter half of the 17th century. At the time of the Revolution it was divided between John Waite and the family of Zachariah Chandler. After the Revolution and into the early 19th Century it was settled by the ancestors of many of the people who live on the island now – Bennett, Cleaves, Curit, Doughty, Hamilton, Henley, Hill, Johnson, Littlefield, Ricker, Ross, Sawyer, Soule, Webber, and more.³

Today the Town has a fairly small year-round population of about 335 people xxx percent of whose families have lived on Great Chebeague for at least several generations. This is a large enough population to support community institutions such as an elementary school and an assisted living facility for the elderly. But it is also small enough that maintaining a population that has a "normal" diversity of ages is an important planning issue.

In the summer many more -- probably more than 1,300 -- people come not only to Great Chebeague but to Hope, Bates, Stave and Ministerial Islands. Many of them are also descended from people who have come to the island as summer people for several generations. They are an important part of the island "community". In practical terms, they own houses, pay taxes, support island services and institutions with their donations and their labor. More important, they are a part of the island's social fabric.

Describing the Town's population exactly is surprisingly difficult. And getting a clear idea about its future size is even harder. The small size of the year-round population means that random fluctuations from year to year may seem like "trends" even if they are not. The summer population is larger, but varies from month to month and, depending on the national economy, from year to year. One thing that is certain is that the number of houses on the island has been growing over the past 50 years, whether or not this reflects an actual growth of the number of people living in those houses.

This section is the Comprehensive Planning Committee's best effort to use various sources of past population to get a handle on how large it might be in ten years.

³ William Hauk. *The Stone Sloops of Chebeague*. (Freeport ME: Freeport Village Press, 6th ed. 1991).

Present and Future Population for the Town of Chebeague Island

The major influence that has been changing the Town of Chebeague Island is growth in the number of houses on Great Chebeague and Hope Islands and, until the current “great recession”, the steadily rising values of property. The impact of growth on Great Chebeague is primarily experienced not in the number of people on the island, but in the number of places that used to be undeveloped that now have houses.

This increase in houses is only somewhat related to the growth in the overall population over the years. Perhaps as much, it is a reflection of the desire of families to have houses, sometimes more than one, that can accommodate all the people who come on the Fourth of July or in August.

The year-round population is at least stable and may be growing slowly. One of the important issues in this Plan is how to increase the number of year-round families with children.

The number of people who come to the island in the summer, however, has almost certainly grown over the years, at least proportional to the number of summer houses built (3.25 per year over the past 20 years), though we have no population baseline for judging this. The Comprehensive Planning Committee estimates that today the population of the island in the summer increases by a factor of 5. This increase is not evident even during some of the summer since not all summer houses are used all summer. Only in August, when pretty much every house is occupied, is the full impact felt.

It is not difficult to document the increase in the number of houses in the Town. But it is difficult to document the number of people with enough accuracy to have a clear idea about how much it will grow in the next ten or twenty years. The fairly small year-round population “ought” to be easy enough to document, but in a small population, even small fluctuations have a disproportionate impact that makes generalizations like population projections, difficult. The summer population comes and goes, invites relatives and guests, grows and shrinks. How many summer people are there? They start coming in the spring and the number grows gradually to a high in August, so it depends on whether you ask on June 25th, July 4th or August 30th.

Summary of the data

There are a variety of past and current population counts for Great Chebeague Island and for the Town. Many people give the current year-round population as “about 350” people. Various sources, discussed below, in various years have counted a Great Chebeague year-round population of 356 in 2000, an average yearly population from 1998 to 2008 of 337 and a 2008 population for the whole Town of 333. So “about 350 people” may be a little bit high and **333 is a current reasonable estimate.**

Households: The number of year-round households were counted as 170 on Great Chebeague in 2000 and 163 for the whole Town in 2008. This meant a household size of 2.09 in 2000 and 1.98 in 2008.

Age: The U.S. Census gives counts of population by age for Great Chebeague for 1990 and 2000 and a 2008 count for the whole Town provides a figure for the number of children. About 19 to 20 percent of the population is children compared with 26 percent for the state as a whole. In 2000 25 percent of the population was 65 years old or older compared with 14 percent state-wide.

Population Projection: The variation in basic counts of year-round residents makes projecting the population into the future difficult. Ten-year percentage changes in the population figures range from a decline of .7 percent to an increase of 21 percent because of the small number of people involved. Tabulation of births, deaths and migration in year-round population from 1998 to 2008 could help to give a more realistic base for projection.

The Greater Portland Council of Governments used its PACTS transportation econometric model to produce a population forecast for the Town based on the number of building permits for year-round houses issued between 2000 and 2006. This produced a growth rate of eight to nine people every five years or 4.3 to 4.9 percent which has the advantage of being in the middle of the other “growth rates”. **Probably the year-round population is growing slowly. In 2018 it is projected to be about 370 or 36 more than in 2008.**

Year Round and Summer Population: Most of the information on the Town’s population relates to year-round residents. However, the summer population is an important element of the Town’s economy and social life, and is a major user of Town services. A look at the increase in housing units in Table 1 gives some idea of growth in both the year-round and the summer population. Over the 20 year period since 1988, there has been an increase of 25 percent in the number of year-round housing units from 137 to 170, and an increase of 28 percent for summer houses from 233 to 298 houses. In 1957, if the numbers are accurate, summer people owned 70 percent of the housing units. But by 1988 this had declined to 63 percent and has remained there ever since.

The pace of construction grew over the years as a reflection of the national economy. In the 1960’s the rate of construction was 1 house per year. In the 70s it rose to two, in the 80s, to three, in the 90s to 3.5. Since 1998 it has increased to 5.5 per year for somewhat unusual reasons⁴. But the collapse of the national housing bubble means that this past pattern may not predict the future very clearly.

⁴ In the fall of 2000 the Town of Cumberland proposed a building cap, mostly related to school crowding on the mainland. The cap on Chebeague was set at 3 houses per year which had been the yearly average for about 10 years. At that point about 20 people, both year-round and summer, on Chebeague who had been thinking about building over the next five to ten years got on a list for the first three permits. Finally the Cumberland Council allowed everyone who was on the waiting list to get growth and building permits as long as they did it right away. This produced a 2000 figure of 10 building permits and a 2001 figure of 12. The cap number for Chebeague was later raised to four per year and 20 over a five-year period to allow some flexibility from year to year. Demand has not risen above that limit since then.

Table 1: Projection of Number of Housing Units on Chebeague Island

Type Unit	1957	1988	1998	2008	20 year average	2018
Year Round Houses	96	133	148	164	1.55/yr	181-190
Other Yr rd	?	4	6	6	.10/yr	10
Summer	224	233	259	298	3.25/yr	330
Total	320	370	413	468	4.9/yr	521-530

The size of the summer population on Great Chebeague is difficult to estimate in a way which suggests its impact on the island. Summer people own 63 percent of the houses but some of these houses are not occupied all summer. Estimates given below suggest that at any given time during the summer there may be as many as 900 to 1,400 additional people on the island. The total number of summer people who may be on the island at some point during a normal summer may be as high as 2,600. But an average of 1,700 in July and August is a reasonable estimate. **In ten years there are projected to be about 100 additional summer people on the island during the high part of the summer.**

The size of the elementary school population is another critical aspect of the Town’s demographic profile. The threat of having the school closed because of its small enrollment was what precipitated secession from Cumberland. While a declining enrollment now does not pose this problem, it reflects the ability of the island to maintain a working, age-diverse year-round population. So far, since the 1960s changes in the size of the Chebeague Elementary School population have mirrored national demographic trends.

Explanation

Past, Current and Projected Year-Round Population

Counting and projecting the population in a place as small as the Town of Chebeague Island is surprisingly difficult. One obvious complication is the presence of both year-round and summer residents. The U.S. Census officially only counts year-round residents, but summer people do sometimes get census forms and send them in. In addition, there are month to month and year to year variations in any count that is made at one point in time which may suggest change where none is really occurring.

U.S. Census: We have census counts in 1980, 1990, 2000 but not earlier (till you get back 50 years when the complete census data has been released). In 1990 Chebeague was its own census block within the Town of Cumberland (Tract 42 Block 7), and in 2000 the Census began reporting data by zip codes. Caroline Paras at GPCOG found the 1980 total population figure in a Census Enumeration District Report. This is year-round population only, though at least some summer people do get census forms on the island and some may get counted as year-round residents.

1980: 336 people (whole Town – 3 people listed on outer islands)

1990: 295 people⁵ (only Great Chebeague)
 147 households
 69 children 19 years old or younger, or 20 percent of the total
 44 people 18 to 29 or 13 percent of total
 76 people 65 or older, or 22.5 percent of total
 No tabulation of housing units. See Table 1 for estimate.

2000: 356 people; this was a 21 percent increase over 295 people in 1990 but only 5.6 percent increase over the 337 count for 1990 (see footnote 2).
 170 households
 Household size in 2000 was 2.09
 72 children 19 years old or younger, or 20 percent of total population
 19 people 18 to 29, or 5 percent of total
 88 people 65 and older or 25 percent of total population
 499 housing units, 170 year round and 314 summer, 15 vacant.

The decline in population between 1980 and 1990 may not be a result of an inaccurate Census count according to Donna Damon.

The number of housing units in 2000 for both summer and year-round houses seems to be too high. The estimate used in Table 1 was the result of taking the number of houses in 2008 and subtracting the construction that had occurred between 1989-98 and 1999-2008.

CPC March 2008 count: This was done by four members of the CPC plus Marjorie Munroe based on the Town property tax records and the Chebeague Directory. It included an estimated four people on Hope Island and four people at the Commons – the number when we did the count. This data is available on the Town GIS computer.

2008: 333 year-round residents.
 Total households 172
 64 children or 19 percent of total population
 No estimate of population 65 and older
 Household size 1.98
 Housing units 468; 170 year-round, 298 summer.

Marjorie Munroe's annual January 1 count. Marjorie Munroe has counted the number of people on the island on January 1 of each year since 1993. She does not count someone who usually is a year-round resident but happens to be in Florida on January 1; and she does count summer people who may be resident just for the holidays. This is published every year in the

⁵ 295 is the final, official count in 1990, from the Census CD-Rom with data by zipcode, courtesy of Caroline Paras at GPCOG. However, the 1990 data that is accessible online from the Census for tract 42 (Cumberland) block group 7 (Great Chebeague Island) is based on a total count of 337 people. The percentages for different age groups here are based on this higher total. Block group 7 only includes Chebeague. Cumberland Foreside is in block group 1 of tract 42.

Annual Newsletter. Her count may include a few summer people or relatives who normally live on the mainland but who were on Chebeague that day, but basically this is the year-round population. It fluctuates from year to year, with a high of 370 in 2003 and a low of 318 in 1993.

1998: 324 people.

2008: 322 people; this was a decline of .7 percent.

Average number of people on Chebeague on January 1 during those ten years was 337.

Greater Portland Council of Governments population projection: CPCOG used the PACTS transportation econometric model to produce a population forecast for Chebeague based on the number of building permits issued between 2000 and 2006 for year-round houses (16 permits). The model projected population growth of eight to nine people every five years, which means a ten-year growth rate of between 4.4 and 4.9 percent. This building permit data did include the 2000 to 2001 building cap years, but Caroline Paras of GPCOG said this should not matter.

This rate of growth is somewhat lower than a projection of Marjorie Munroe's data and somewhat higher than a projection of the 1980 to 2000 census data, which suggests that it may be a reasonable estimate. However, this rate of growth in population is about three times faster than the rate of growth of year-round housing over the past 20 years.

Current Summer Population

Since 63 percent of the houses on the island are owned by "summer" people, the number of people on the island grows dramatically in the summer, and "summer" is also a somewhat flexible term. At a minimum, the Town population triples. This increase on Great Chebeague is reflected in the tenor of life on the island. The relative quiet of the winter gives way in the spring to the return of people from Florida and other points south. Vacationers begin to come in June and increase to a crescendo in August, quieting down again after Labor Day. The long summer people stay on until Columbus Day, Thanksgiving and even Christmas. The Town Office, the Transfer Station, the Boatyard, the Clam Shack, the Library, the Clinic and the Rec all plan for this cycle.

Estimates based on survey populations:

The survey for the Long Range Plan in 2000 was sent to 1145 year-round and summer people with a "substantial connection to Chebeague". This included everyone in the property tax assessment list, all year-round residents in the *Chebeague Directory* and everyone else who was listed in two of the following: the *Directory*, the membership list of the Historical Society and the membership list of the Island Council. Of the 550 people who responded, 32 percent lived on the island year-round, 22 percent came from May to October and 37 percent came for less than three months in the summer.

This plan's survey was sent to all 755 individual adults listed in the *Chebeague Directory*. 297 people responded; 30 percent of respondents were year-round residents, 57 percent were summer people and 12 percent did not provide demographic information.

These people included in the survey populations are all people with substantial yearly connections to Chebeague, so they represent the minimum summer population. This suggests

that the adult summer population may be between 430 and 650. If there were, on average one child for each two adults, this would make the summer-native population between 650 and 1000.

Summer people on Great Chebeague Island at any given time:

In 2008 the island had 298 summer houses. If all houses were occupied and each household had three people, there would be 894 summer people on the island at any given time. If the household size were larger, given other relatives, children and guests, an average size of 4 would give 1192 and of 5 would give 1490. If the 333 year-round people also have guests, the total people on the island at any given time during the high season in August is probably in the range of 1,250 to 1,850.

In 1990 a count of all people on the island, summer and year-round, on the July 4th weekend, the busiest weekend of the year, found 1,500 to 1,700 people.

In the spring and the fall the long-stay summer residents may increase the regular winter population of 333 by 50 to 100 people.

Total summer visitors.

Phone Book summer adults: Summer houses are often owned by siblings, or they are owned by a grandparent generation and the children and grandchildren come to visit. In the Chebeague Phone Book anyone who comes regularly to a particular house – whether as a regular renter or as a member of the owner's family, can be listed separately at that address and phone number. So some houses have 5, 6 even 10 and in one case 16 people listed at one house. Only adults are listed and there are 736 of them. If there was children per adult (not per couple) that would produce about 1470 summer people who are on the island at some point in a normal summer.

Renters: There are also 42 houses that are rented out for part or all of the summer season which, on Chebeague, is probably about 12 weeks long. Some renters come for a good part of the summer, others for only a week. Assuming that each renter household was three people and that a quarter stay for a week, another quarter for two, a third quarter for a month and the rest for the whole summer, this would mean that about 700 renters might pass through Chebeague in a summer. But since some of these rented houses are occupied by their owners during part of the summer, and since regular renters are sometimes listed in the phone book and were counted above, this certainly too high a guess.

The Chebeague Inn has 21 rooms, for a capacity of 40 to 50 people at any given time. The reopened Orchard Bed and Breakfast add another 5. All told, this might come to an additional 600 people.

These sketchy estimates would add up to somewhat in the range of 2,600 visitors over the course of a summer.

The only indicator that we have for projecting the increase in the summer population is the number of new summer houses built during the past 20 years. Ten-year projection of that number would suggest that about 100 more summer people would be on the island at any given

time if the household size were 3. Larger average household size would, of course increase the number.

None of these numbers about the summer population are very definitive. They can only suggest an order of magnitude. The Comprehensive Planning Committee agreed that there are probably about an average of 1,700 people on the island at any given time during July and August.

School Population

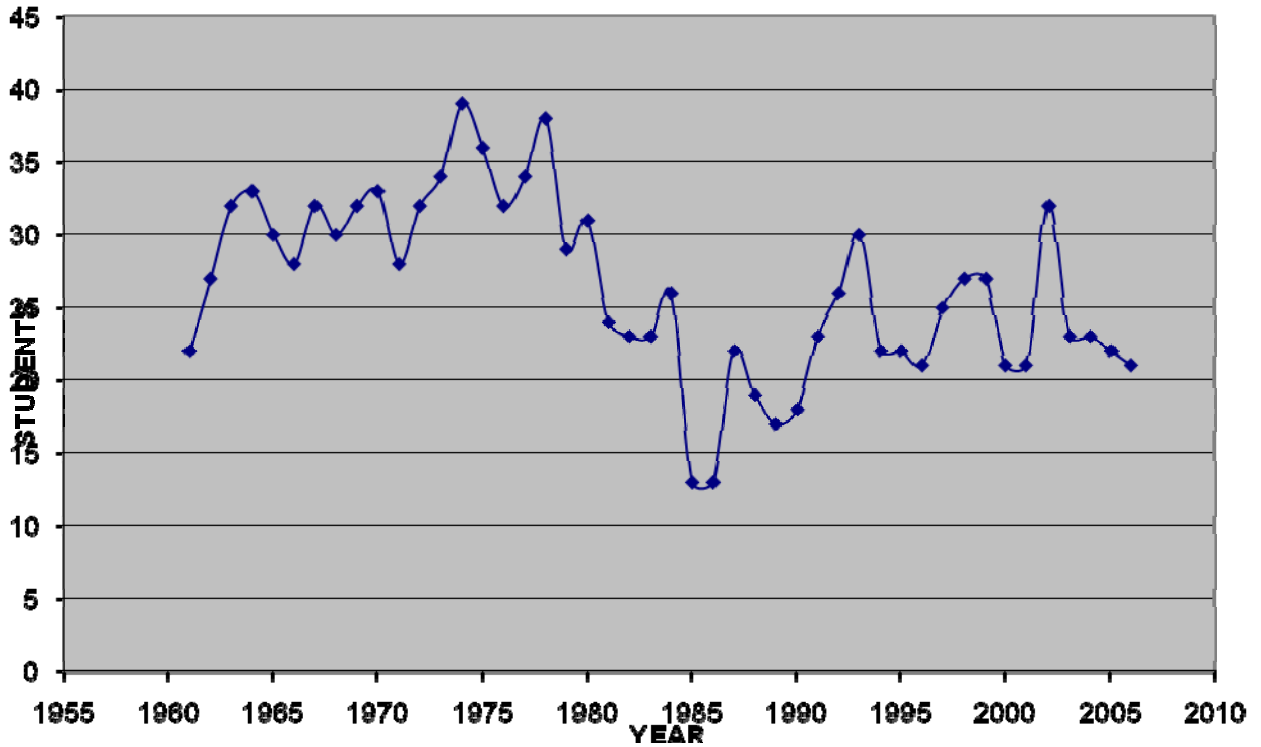
Official information on Chebeague's school population in the past is not easy to get from SAD 51. This is especially the case for Chebeague students in mainland schools since they are not kept track of separately in each grade. However, Donna Damon developed a tabulation and graph of the Chebeague Elementary School population (K – 6) since 1960 based on school end-of-year photographs (Graph 1) The numbers of children are only comparable from year to year between 1964 and 2005. In 1964 the Junior High students (grades 7-8) were switched to the mainland, and in 2005 when the 6th grade was also shifted to the mainland. This graph suggests that changes in the Chebeague Elementary School population mirrors demographic changes in the wider society.

The U.S. baby-boom is considered to have begun in 1946 and ended in 1964. These baby boom children hit elementary school in 1952, with the last group entering in 1970. Chebeague's peak school population was 39 in 1974, in the middle of the last cohort of boomers.

Nationally and on Chebeague the birthrate declined in the latter half of the 1960s and the first half of the 1970s – the kids who reached school age between 1970 and 1982. The Chebeague school had its low point in enrollment at 13 students in 1985 and 1986.

Since then the baby boom "echo" raised the birthrate again, almost to the peak it had reached in 1964, with the high occurring about 1990. These children reached school age about 1996. On Chebeague the pattern since 1986 has been less clear, with many ups and downs. However the general pattern is similar, with the average number of students per year from 1987 to 1997 at just over 22 compared to 31 for 1960 to 1974, and the low of 13.

SCHOOL POPULATION



Graph 1

Nationally, virtually all the growth in the school-age population in the future is expected to be among immigrant families. In Maine, enrollment has gradually been declining for ten years. Maine’s birthrate is predicted to decline, though southern coastal areas may be continue to have net in-migration and some increase in births. The current recession certainly makes these predictions less certain.

Bump Hadley’s projection into the future of the current elementary school population shows a gradual increase to 18/21 students in 2012 and then a decline to 11/17 in 2015. This projection is particularly influenced by the current large (7 students) pre-kindergarten group which, assuming these children all remain on Chebeague, will support the whole school population until it enters middle school in 2015.

Because of the island’s small year-round population, the Chebeague School will probably always be vulnerable to declines in the school-age population that set off alarm bells. That is one of the major reasons why Chebeague seceded from SAD 51. If it is subject to the same demographic patterns as the rest of the country and the state, it will be necessary to consider those patterns in any effort to maintain and increase the number of young families on the island.

Demographic Issues

Is the rate of population change expected to continue as in the past or to change?

Since the 1970s Chebeague has seen an increasing rate of population growth, measured by the number of houses constructed. In the 1960's the rate of construction was 1 house per year. In the 70s it rose to two, in the 80s, to three, in the 90s to 3.5 and since 1998 it has increased to 5.5 per year because of the glut of construction resulting from the building cap. Now it is at 0, but how much impact the current housing bust will have depends on how long it lasts and how deep it is.

Without the current housing and economic problems, the rate of growth might have continued at the same pace, as baby boomers who had been summer people became year-round residents. But the current state of the economy may affect retirement plans and incomes, as well as the ability of people to afford ownership and especially construction of summer houses.

Which demographic groups are the fastest growing, which in decline?

We have only the 1990 and 2000 census data for most age groups, and the count in 1990 has problems (see footnote 2). That said, the most striking difference between 1990 and 2000 is the decline of in the proportion of year-round residents between the ages of 18 and 29. In 1990 they made up 13 percent of the total population. But by 2000 they made up only 5 percent. This is the age group of people starting new careers and households on the island. In both decades the largest group in this age group is the people from 25 to 29; but in 1990 this included 23 people, while in 2000 it included only 12. This may be a function of several factors. More high school graduates may now be going to college rather than starting a career on Chebeague. Perhaps related to this is the change in State policy about limiting entry into the lobster fishery. It may also reflect the dramatic rise in housing prices during the 1990s which made it more difficult for young people who didn't make much money to find places to live.

It also appears that the proportion of the population over 65 is growing the most rapidly, making up 22.5 percent of the population in 1990 and 25 percent in 2000. Not only are life-long residents getting older, but since 1990 and especially since 2000 there has been an influx of people, many of whom used to be summer residents, who now have come to live year-round on Great Chebeague. In the future, as the baby boom generation begins to reach retirement age in about 2011, this trend may become stronger.

The proportion of the population that are at or younger than school age has remained about the same at 19 to 20 percent. Because it is so small, the Chebeague elementary school is quite sensitive to ups and downs in the school-age population, as indicated earlier. If the future school enrollment mirrors what is happening in the rest of Maine, the Maine Department of Education reports that enrollment has been declining slowly over the past ten years and this trend is expected to continue.

What will be the demand for housing and services to accommodate this change?

The estimates above suggest that there will be an increase of about 21 to 30 year-round dwelling units, or from 41 to 60 year-round people. In addition about 32 summer houses, occupied by at

least 100 people are likely to be built. However, this increase is well within the range of the estimates of the present summer population -- between 1250 to 1850.

The summer population already has a significant impact on the need for services on the island. They bring their cars over on the barge and wear and tear on roads goes up. There is more garbage at the dump, more bottles to recycle. The island goes from having a policeman one day per week to having a full-time County Sheriff's officer living on the island. This quintupling of the population every summer means that a ten-year increase of 40 to 60 people in the year-round population is likely to have little impact. The concern in the community about the school population, for example, is that it will shrink too much rather than it will grow to require a larger school.

The gradual increase in the summer population will have some impact. We need to be mindful of the environmental impacts of additional people, on things like septic systems. On the other side, however, the summer people who own 63 percent of the houses pay taxes that support public facilities and services. They also donate to building and operating funds of non-profits such as the Library, the Rec Center, the Commons and the Historical Society, enabling the island to have more extensive services than a community of 333 could support.

Similarly, many businesses would not be able to survive on the business of 333 year-round customers. They make a major portion of their money during the summer. A larger population, summer or year-round, would give these businesses and organizations more security.

If most people new people are newcomers, how can shared outlooks be fostered?

Most of the population growth will come from people who have family or friends on Chebeague. As long as Great Chebeague has a substantial population of life-long year-round and summer residents whose families have lived on or visited the island for generations, they socialize new year-round and summer residents into the island's history, traditions and values. There are some problems of suburban ideas of property ownership that lead new residents to try to close off traditional paths and water access points on their land. But life-long, year-round residents still primarily define the community's values. This is made easier because living on an unconnected island is an unusual experience that attracts people who are likely to be interested in the island's values and traditions.

What is the nature of the seasonal population? Is it changing?

The seasonal population is primarily made up of people who own houses on the islands. Many of them are "summer natives" whose families have been coming to the Town's islands for several generations. Only 14 percent of these houses are rented by the week or month during the summer, and many of these are regular renters. Guests at the Inn and new people attracted to the idea of renting a house on an island are the major "transient" part of the summer population.

Traditionally Great Chebeague is thought of as having many academics as summer people, but this has probably never been the majority occupation. In recent years there has been more evidence of wealth, manifested in a handful of large new summer (and sometimes year-round retirement) houses that have been built on the shore. But these have mostly been built by long-time summer residents or people who have been attracted to the island by long-time summer

people. Great Chebeague and the outer islands have never had the kind of old family wealth seen on some of the Penobscot Bay islands. Nor have they developed the cachet of places like Nantucket. But people bring friends to the island who decide it would be an attractive place to have a summer house, and some end up retiring to the island as well, so the summer and retirement populations are increased gradually.

There is no strong indication that the summer population will change significantly except for growing in size. New generations of existing summer families come along. As the baby boom has grown up and had children, housing standards have risen. This has put some pressure on the housing market. As families extend in younger generations, they look for existing houses to expand into, or build new ones. A family with a large old summer house that used to sleep 15 people in a miscellany of rooms and old beds, renovates the house and builds a new one for part of the family. Only if the cost of and the taxes on land and houses becomes extremely high will the middle class of summer people be squeezed out. However, there is anecdotal information that people in younger generations make shorter stays – the days of whole-summer vacations seem to be in decline.

The exception to all of these statements is Hope Island. It is owned by a wealthy couple who have been developing it as a gentleman's farm with several houses and many outbuildings including a small church. It is accessible only to the owners.

Issues

Should we have any explicit policies to shape the island's demographic growth?

- Encourage more young people, especially with children

 - Nature of education

 - Jobs, what kind?

 - Cost of housing

 - Cost of living including transportation

- Encourage commuters or primarily people who will work on the island?

 - Need to generate more jobs.

Where will additional people build houses? Can we shape this development?

What will be the impact of additional population on septic system capacity of island?

Land Use

The previous inventories dealt with The Town of Chebeague Island's natural resources and its current population, year-round and summer. Now we come to the Town's houses, businesses, and buildings for the Town government and the island's many non-profits. Land use also includes land used for things like agriculture, forestry and protected open space.

The amount of development on Great Chebeague has grown substantially over the past 20 years, but so has the amount of open land that is protected from development. Areas that used to be undeveloped like Rose Point and Division Point are now largely built-out subdivisions. So now it may be impossible to hunt ducks at either Point, but there are public paths to the beaches, which are open to the public.

The increasing development has had a price. While some of the outlying islands may be kept undeveloped in perpetuity, Great Chebeague is not rural now in any economic sense. On Great Chebeague, one farm and several woodlot operations compete for space with houses. Hope Island is used as a farm but not a commercial one. Since the land is almost all zoned and mostly taxed for 1.5 acre house lots, it is very difficult for traditional rural land uses such as farming to compete successfully.

The predominant land use on all the inhabited islands is housing. On Great Chebeague this is partly because the island still has a traditional land use pattern, abandoned in most communities on the mainland, where businesses are largely located at or in the owner's house. Housing has been growing at the rate of almost 5 (4.9) houses per year over the past 20 years, with the rate increasing during that period. In part because there has been so much housing built in recent years, the prices of land and houses have increased beyond the reach of many year-round residents.

In addition to houses with businesses, there are free-standing businesses such as the Inn and the Boat Yard. The Town also has a variety of buildings such as the firebarn and the Town garage, as well as other land uses such as the Transfer Station.

The major "growth sectors" in land use on Chebeague, however, are non-profit organizations and protected open space. Formal protection of open spaces like Deer Point, Indian Point and the Higgins Farm is probably a response to the growth in the island's population and housing. If formal efforts are not made to keep land from being developed, development is more and more likely to come. Indeed, in some cases, such as the beach and marsh on Rose Point, or access to the beach at Division Point, this protection was not undertaken until development was actually taking place.

Buildings and other facilities for nonprofits which are dealt with more in section V, attest to the strength and organization of the Chebeague community. Some like the Church and the Museum of Chebeague History are old buildings, while others are new. Overall, they are among the largest, most visible and most carefully designed buildings on the island.

The following inventories describe these various land uses, how they have changed over the past ten to 20 years and how they may change in the future. The central issue raised by these inventories is whether we accept and continue the existing pattern of development on the islands, or whether the Comprehensive Plan should try to shape future development to a somewhat different pattern. The tools of zoning and subdivision control that the Town has now to regulate development are not well designed to change the pattern. If that is what we want, we must search for additional means for doing it.

Land Use Inventory

This plan deals with a wide variety of aspects of life on Chebeague and the other islands of the Town – the population, the economy, natural resources, various community services including the school which is a central institution, energy, historical resources and housing. In a traditional comprehensive plan these elements are all tied together because they result in some form of land use – stores, houses, public and non-profit buildings, open space and utilities. In the U.S., the primary way that a town’s future is shaped is by shaping how its land develops. These tools have been used in the United States particularly since the 1940s and have had a fair amount of impact on how communities have developed physically.

Development on Great Chebeague, however, still follows a pattern that predates the development of land use planning and zoning, with little distinction or physical separation between residential and commercial uses. If this pattern is to be maintained as development inevitably continues, it is important to understand the differences between Chebeague’s traditional land use pattern and the expectations of current planning and zoning.

Current Approaches to Planning and Zoning

Current approaches to land use planning and zoning are only moderately relevant to Chebeague. But these approaches are widely used on the mainland, in communities in all states. This means that people coming to Chebeague “from away” as summer or year round residents, often bring with them the expectations about land use based on their experience elsewhere.

The basis of land use planning is the recognition that some land uses create problems for areas beyond their property such as noise, odor and traffic. The usual kinds of land uses identified in any plan are: residential (houses, condos, apartments), commercial (stores of all kinds and sizes), industrial (factories), agricultural (farms and orchards) open space (parks) and public facilities (firehouses, solid waste facilities). The most common principle of land use planning is that “incompatible” uses should be kept separate from each other. So residential uses should be protected from “more intense” uses such as stores and especially industries that generate more traffic, noise and pollution. Looked at from the opposite perspective, agriculture, forestry and marine industry may need to be protected from urban/residential/commercial development not only because it raises the price of land but also because urbanites may complain about noise, smells, and machinery.

In more recent years this traditional planning orthodoxy has been somewhat challenged by planners who want to encourage less use of cars for routine daily trips such as going to work or school or shopping. In this image of land use, it is good to mix residential development with other uses and design them to be compatible. Even so, the traditional idea of zoning as “protecting” the serenity and property value of homes is something that many people accept, though this may be less the case on Chebeague with its “live and let live” values.

The most basic tools for controlling land use are regulations on how land can be developed. Zoning codes set things like minimum lot size, what kind of buildings – houses or stores, for

example, are allowed in different areas of the Town and what kind of uses are not allowed at all. Subdivision ordinances set minimum standards for public facilities like roads, septic systems and wells when land is developed. The rationale for these controls is that they protect citizens from public health or environmental hazards, and problems such as heavy traffic and noise which may be appropriate in some places but not in others.

This kind of regulation works pretty well for preventing problems by setting minimum standards for development. But it doesn't work very well for encouraging people to do things that will make the community more attractive than the minimum requires. So other tools such as tax breaks and public money or are used to encourage preservation of open space or historic resources or economic development.

The power to develop and legally adopt zoning and subdivision review for controlling growth is given to local communities by the State Legislature. In order to use this power the Town is required to prepare a Comprehensive Plan to determine how the community wants to develop in the future. And the State has some goals of its own that all towns must consider in developing their plans. In relation to land use the State goal is: "To encourage orderly and efficient growth in appropriate areas of each community, while protecting the state's rural character . . . and preventing development sprawl."

Land Use on Great Chebeague

A substantial part of Chebeague's development – houses, businesses and institutions -- dates from the 19th and early 20th centuries. The Town of Cumberland adopted its first zoning ordinance in 1949 and its first subdivision ordinance in 1959 as suburban development on the mainland began to take off. Chebeague, on the other hand had a hiatus in development from 1930s to 1970s. So, though Chebeague was covered by Cumberland's zoning, the island zoning provisions were largely written to reflect the pattern of existing uses rather than to shape them to some other pattern.

The basic land use pattern on Chebeague is that most uses are either houses or buildings for public and non-profit orgs. The predominance of houses does not indicate that Chebeague is like a residential suburb where residents go to other communities to work. In fact, on Chebeague 85 percent of the jobs held by islanders are jobs on the island. There simply is not much physical separation of commercial and residential land uses. Most businesses are located at or in their owner's house. The island has only five businesses where the building for the business is not at the owner's house.

Just over 10 percent of the houses (48) are used as home-based businesses where the worker keeps materials and tools at the house but does most of the business off-site. These are primarily construction and fishing businesses. Indeed, one of the most important provisions of Chebeague's Zoning Ordinance is the one that allows as a permitted use, even in the Residential Zone:

Uses related to commercial fishing, including storage and repair of traps, seines, boats and other equipment, the keeping and cooking of fish for sale at retail on the premises, and fish processing as a home occupation.

It certainly is possible on Chebeague to have the kind of “conflicts” between residential and commercial uses that led to the development of separate zones on the mainland. A resident may hear the sound of machinery from a neighbor’s business, smell his or her lobster traps or sheep, or hear the music from weddings at the Inn. But rather than segregating these land uses away in separate zones, Chebeaguers seem to have simply developed an attitude that accepts these conflicts as a normal part of daily life. As development on the island continues, and houses inevitably become closer together, it remains to be seen whether this attitude will survive.

Land Suitable for Development

Not all land can or should be built on. The land itself sets some constraints on where development can occur. Areas that are regularly flooded may not be developed – there are not many houses on Chebeague that are likely to be flooded in nor’easters, for example; though fertile riverine lands inland that are subject to flooding often have been developed anyway. Since the 1970s, as a result of the environmental movement, plans have paid more attention to the natural suitability of land for development. However, in a place like Chebeague, where development goes back before the 18th century, land suitability has often been something to create rather than simply to accept.

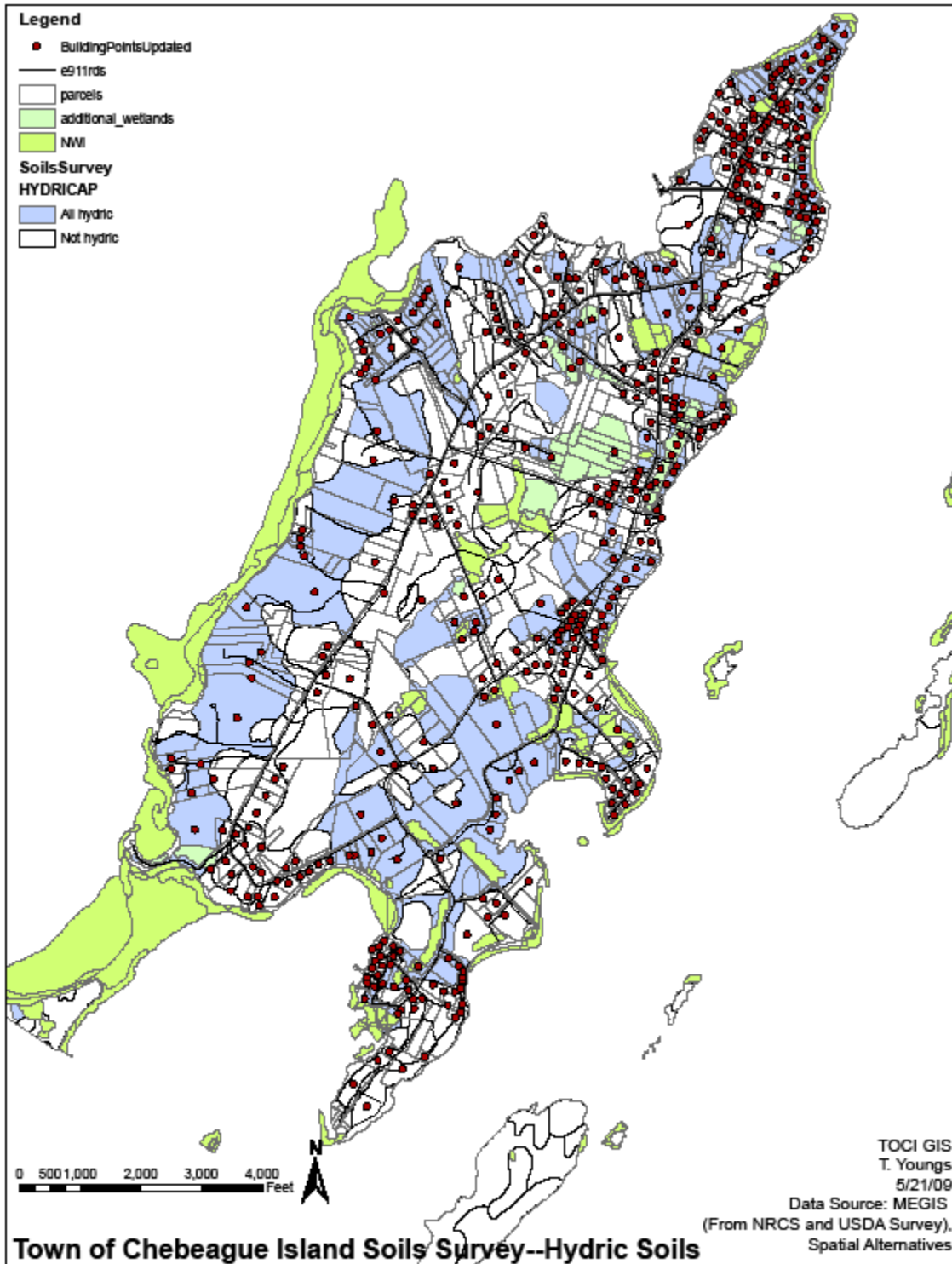
By present land use standards, Great Chebeague has many areas that are not very suitable for development. This is primarily because, as Map 1 shows, this “land of many springs” has many wetlands and areas of wet or “hydric” soils. However, until fairly recently hydric soils and wetlands did not deter people from development. Farmers drained fields and filled wetlands, and the lack of trees kept them from remaining excessively wet after storms.

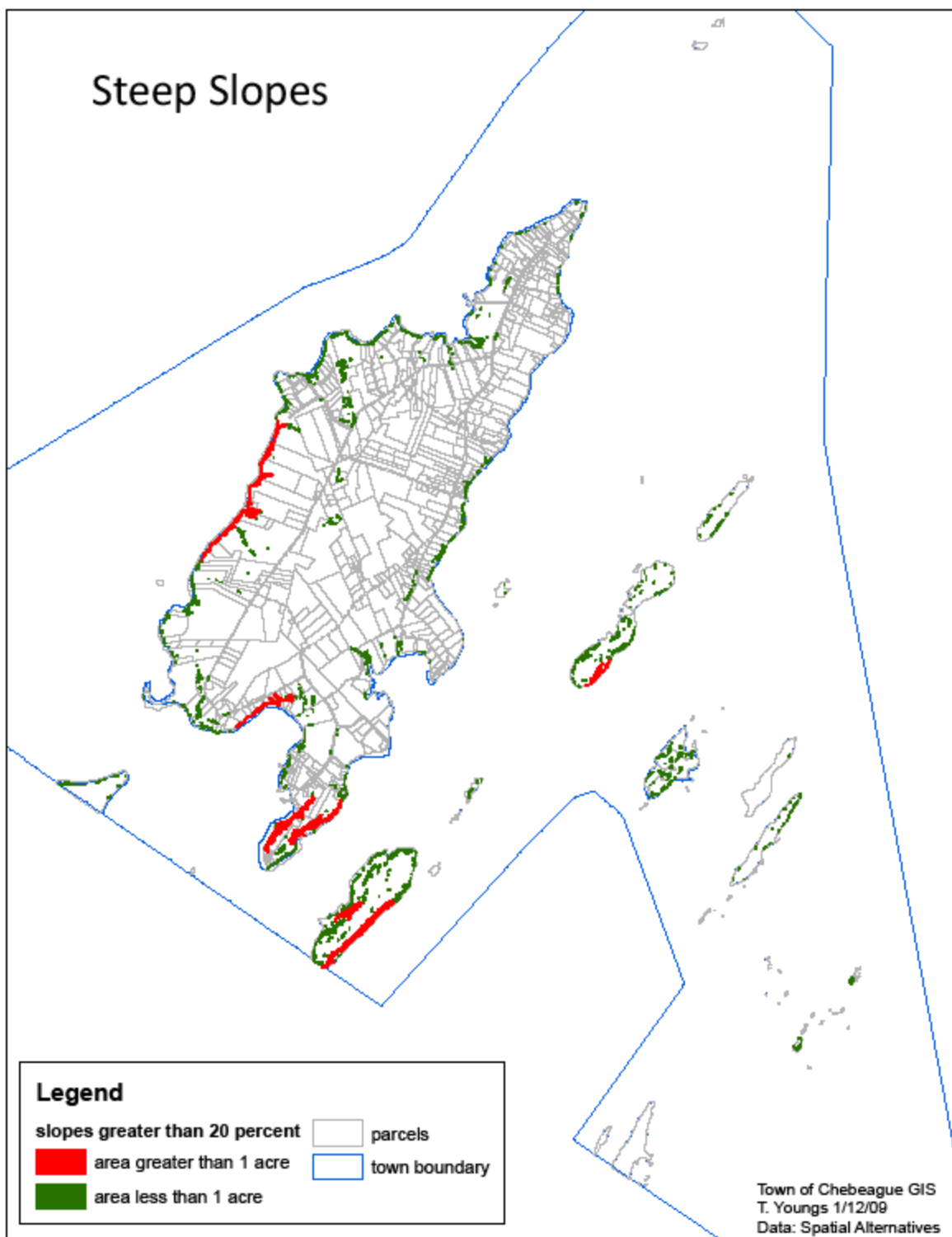
Steep slopes – both bluffs and ledge -- are difficult to develop, and development increases erosion of their often-fragile soils. Moreover, bluffs on the ocean are subject to gradual sea-level rise and to being washed away in storms. Even so, as Map 2 shows, both Cottage Road and, in a more extreme example, South Shore Drive provide access to houses on bluffs with beautiful views out to sea. The bluff at Hamilton Beach is thought to have receded 38 to 46 feet since the lots along it were laid out in 1895. Yet all of these areas are fully developed.

Aquifer recharge areas may be quite good for development, and especially for development of gravel or sand pits. But the fact that they are made up of gravelly soils means that pollution from roads, septic systems or industrial uses may easily penetrate into an aquifer below. In a place like Chebeague, with a sole-source aquifer, pollution in one area may spread throughout the entire aquifer. However, as Map 3 indicates, most of the soils on the island are soils suitable for sand and gravel aquifers.

On the other side, some land is particularly well suited to certain kinds of development. Land that is good for farming is also generally good for development and easy to develop since it is cleared already. Indeed, development of “raw” land for houses and commercial uses has been viewed as a natural and positive process. In state law the “highest and best use” for land is as houses, stores and factories. Recently, however, there has been an effort, requiring amendment of the Maine Constitution, to enable land used for agriculture, forestry, commercial fishing and open space to be taxed at its lower value for those uses.

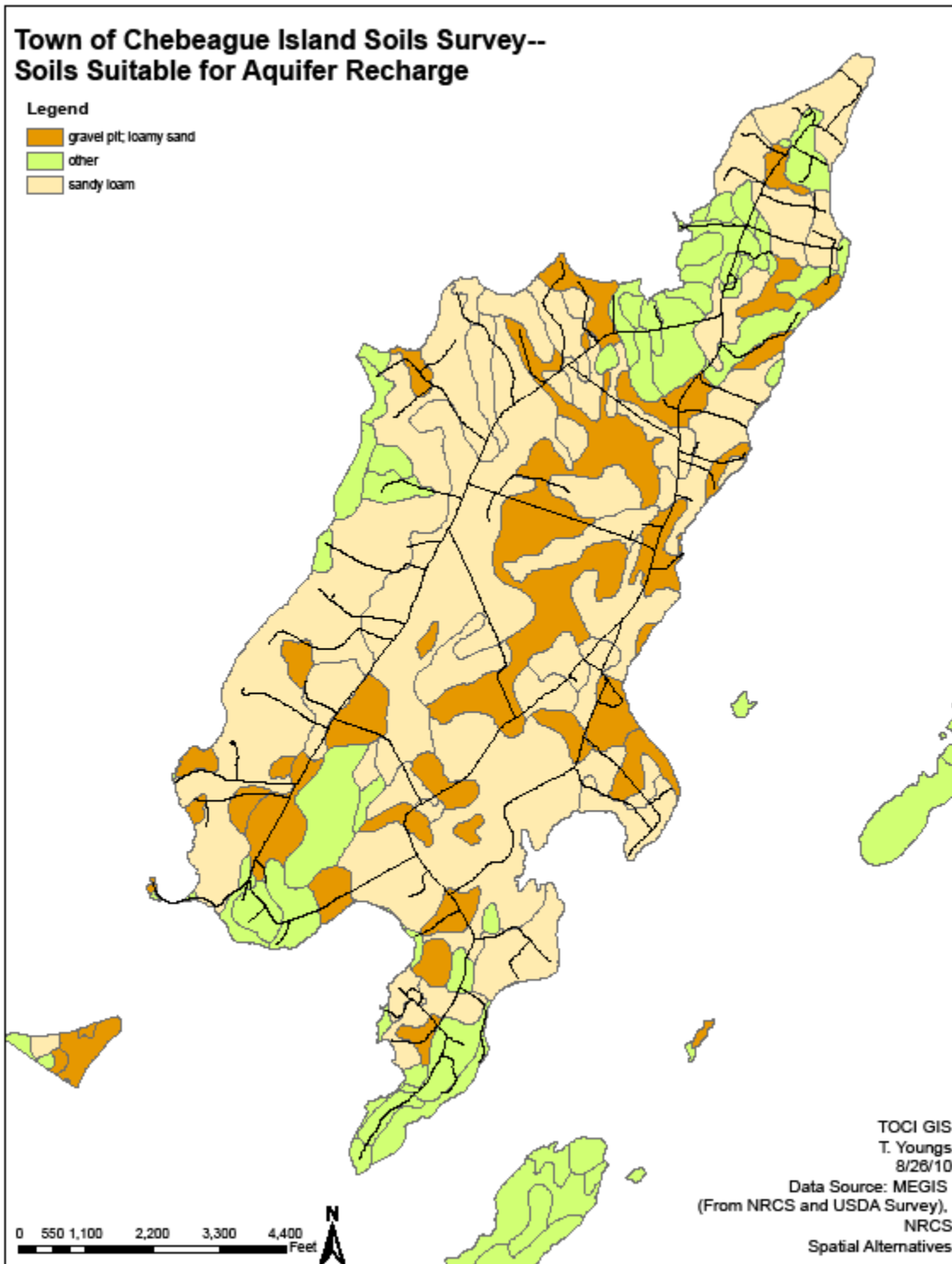
Map 1: Hydric Soils, Poor for Development, and Existing Development





Map 2: Steep Slopes Qualifying for Resource Protection

Map 3:



The point about the suitability of land for development is that almost any land can, with enough work and money, be developed. The question is whether it should be. One of the major purposes of a comprehensive plan is to try to guide development to areas where the land is suitable for septic systems, roads and foundations, but not to ones which might better be used for farming, forestry or habitat for wild animals.

Recent, Current and Projected Land Use

Chebeague has a fairly simple land use pattern, though one that is somewhat unusual for an American community. First of all, the land use on the outer islands is all either resource protection or residential. On Great Chebeague, as the Traditional Land Use Map (Map 3) indicates, most of the island's structures are houses or buildings "accessory" to houses. This is not because Chebeague is a "bedroom" community where residents go to other communities to work. As the inventory of the island economy indicates, Chebeague has a diverse economic base and 85 percent of the jobs held by island residents are on the island or on the waters around it. The difference from many other communities is that commercial land uses on Chebeague are typically, with some notable exceptions, in or at private residences (see Map 4). Besides various kinds of open space, the major other category of land uses is buildings used for public or non-profit activities. There are no land uses that are defined as "industrial" in the Town, though the gravel pit, the Transfer Station/brush dump and the barge landings are industrial in nature.

Chebeague Island has never had a single central village, around a harbor, for example. The island is large enough so that it was difficult to walk to a central "town" area. There were multiple stores, schools and churches located in different parts of the island so that people could walk to them.

Development on Great Chebeague has tended to occur in "hamlets" where the density is greater than the surrounding areas. These came about in several different ways. Some were the result of families dividing farms up among later generations, sometimes with smaller, clustered houselots and separate woodlots some distance away. These more populated areas also sometimes became sites for businesses and/or a private or a steamship wharf – the residents not only had to get the steamship company to agree to the wharf, but the Town had to agree as well. Hamlets like this were:

East End/Hamilton Store and Stone Wharf

Later summer Hillcrest/Hamilton Hotel Landing/later Nellie G.

The Center/Leonard's and Doughty's markets/Firehouse/Hall/Central Landing/Fenderson Clam Factory – this settlement was the most like a village with mixed uses of any of the hamlets.

Along North Road from Firehouse Road to the Historical Society, Aaron's wharf.

Chandler's Cove Wharf; WW II wharf., but there was an earlier wharf

Coleman Cove/Western Landing

Others settlements were formal subdivisions. There were a number of subdivisions, largely on the shore, for summer houses early in the 20th century. Some of them, such as Sunset Landing, never developed at all, leaving only paper streets. Others became "hamlets"

Cottage Road – summer

Waldo Point – summer

Massachusetts Colony – summer

Since WW II there have been four major subdivisions: Cart Road Acres (1972), Division Point/Division Shores (1975), Rose Point (1989) and School House Road (1990). All except School House Road have shore lots, though in Cart Road Acres they were not developable initially.

Over the past 50 years, with the coming of more cars to the island, development has become somewhat more spread out. Areas like the North shore and Deer Point have seen quite a lot of development, typically of fairly large lots.

In the past 20 years development has occurred lot by lot all over the island. There has been one unreviewed 3-lot residential subdivision during that time, though about half the development since 2000 has occurred in the older subdivisions listed above. There has been one substantial new commercial development, providing space for three businesses. Otherwise, all commercial development has been in home or home-based occupations. The one kind of “enterprise” that has grown tremendously in the past 20 years is non-profits. Five new non-profits with buildings have been added to the previous two, only one of which had a building.

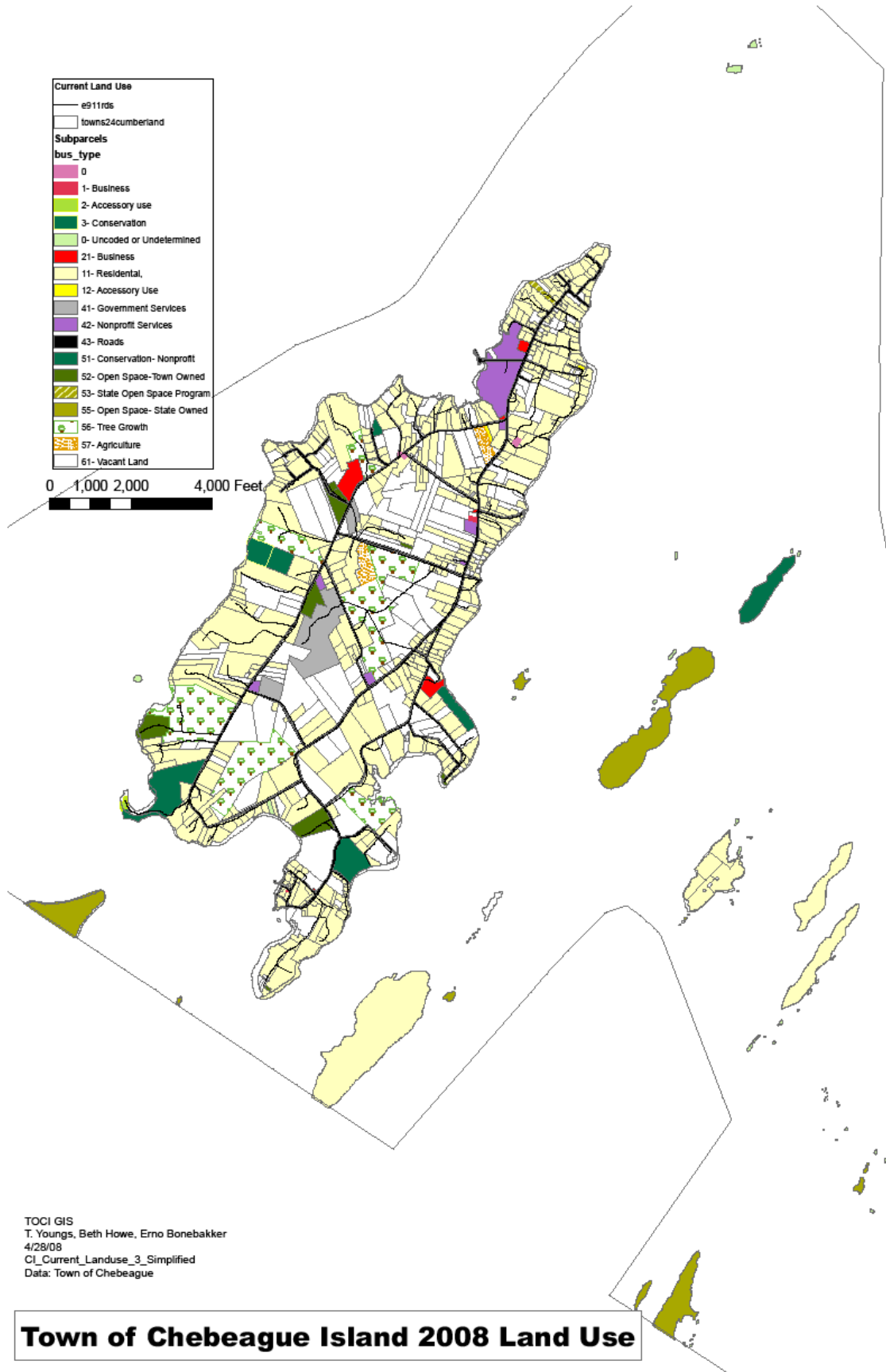
Despite this pattern of substantial development, especially in recent years, residents think of the island as “rural”. In the previous plan, retaining the island’s rural character was an important goal. In part this is because of the continued existence of the traditional, resource-based, fishing industry. However, the island cannot be considered rural in an economic sense. Little or none of the land itself generates enough money from uses like agriculture, animal husbandry or timber harvesting to pay the taxes. Only renting your house for the summer does that. So all undeveloped land is economically vulnerable to housing development. It is presently kept open for non-economic reasons.

In the regional context of the Portland Metropolitan area, Chebeague is still relatively rural with an overall density of one house for every four acres. If a bridge had been built in the 1960s, as was proposed, the island would have become substantially suburbanized like Cousins Island. But the passenger-only ferry service for many years reduced the suburban pressures felt by mainland Falmouth, Cumberland and Yarmouth.

Agricultural Land Uses

Agriculture and timber harvesting are permitted uses in the IR and IB zoning districts on Chebeague. In the Shoreland Zone they require various kinds of permission. Animal husbandry is allowed by special exception in IR and IB. However, there is no exclusively agricultural zoning on the island, so all land is zoned for 1.5 acre lots, whether or not it has actually been subdivided. This zoning raises the value/price of the land, and as indicated above, this makes it difficult for the land to generate enough income to maintain it in farming.

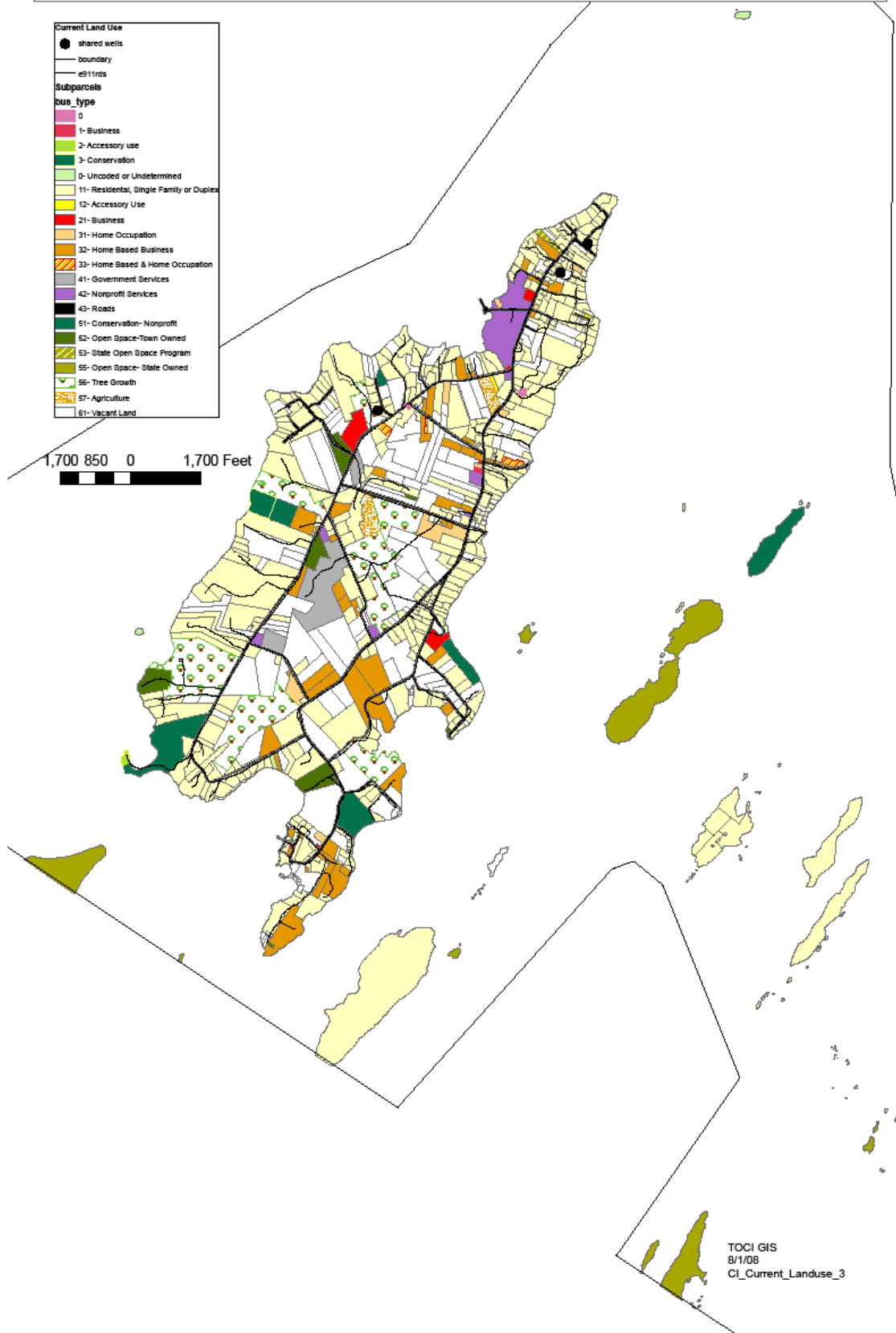
Second Wind Farm is the only parcel that is used as a farm. Other land could be or is used for hay. The KomLosy’s parcel between North and South Roads is used for sheep and goats. Several other people have sheep, goats and/or chickens at their houses. Several areas are used as



TOCI GIS
 T. Youngs, Beth Howe, Erno Bonebakker
 4/28/08
 CI_Current_Landuse_3_Simplified
 Data: Town of Chebeague

Town of Chebeague Island 2008 Land Use

Town of Chebeague Island 2008 Land and Economic Use



regular woodlots, and others have some timber harvesting, though primarily this is done when land is developed for housing. 147 acres of land are in the State's Tree Growth program, but actually logging it is apparently not economically viable.

Commercial Land Uses

As Map 5 shows, many houses on Great Chebeague are used both for residence and for business. Indeed, there are only five businesses on the island where a free-standing building for the business is not at the owner's house.

Just over 10 percent of houses (48) are used as home-based businesses where the worker keeps materials and tools at the house but does most of the business off-site. These are primarily construction and fishing businesses. Indeed, one of the most important provisions of Chebeague's Zoning Ordinance is one that allows in the Island Residential Zone:

Uses related to commercial fishing, including storage and repair of traps, seines, boats and other equipment, the keeping and cooking of fish for sale at retail on the premises, and fish processing as a home occupation;

There are also several houses used for commercial purposes including "home occupations" where the business is completely conducted in or at the house:

Miller Designs
Orchard B & B
CTC Office
Art Gallery at Stone Wharf
Chuck Varney's sawmill
Bob Dyer's garage

Finally, there are seven specifically commercial buildings:

The Inn
Slow Bell Café*
Doughty's Market*
Chris Burgess' car repair*
The Boatyard boatshed
The Post Office/Niblic giftshop/ Boatyard Office building
Island Riches giftshop*
The Clam Shack*

Those marked * are on the same lot as the owner's dwelling unit.

There are also three or four commercial uses without buildings.

Businesses that are set up in existing houses do not add commercial space to the Town's inventory. Prior to 1998 Chebeague had 18,374 square feet of commercial space in the Inn with 12,946 square feet, the Boatyard at 3,800 square feet and Doughty's Market at 1,628 square feet. Since 1998 the Boatyard built a 4080 square foot addition now used by the Post Office, the Niblic and the Boatyard Office. The Clam Shack and Island Riches added 388 square feet for a total of 4,468 square feet – a 24 percent increase and about an average of 500 square feet a year. The projected Slow Bell Café will be in an existing building that was previously used as a

restaurant. No estimate has been made of increased space devoted to home and home-based occupations. Growth in the housing stock itself is discussed below.

Residential and Business Zoning

Great Chebeague does have two zones defined in the Town’s Zoning Ordinance – a residential zone and a commercial zone. The lot size, at 1.5 acres (.94 ac/du for duplexes), is the same for both. The road frontage and setback requirements are also the same. Table 1 indicates that they vary only by the age of the lot, because old lots and buildings so frequently do not conform to the current lot requirements.

Table 1: Lot Requirements

Road Frontage	Lots created < 1975	Lots created > 1975
Front setback	25 feet	55 feet
Side setback	20 feet	30 feet (comb 65 feet)
Rear setback	20 feet	65 feet
Road frontage	150 feet	150 feet

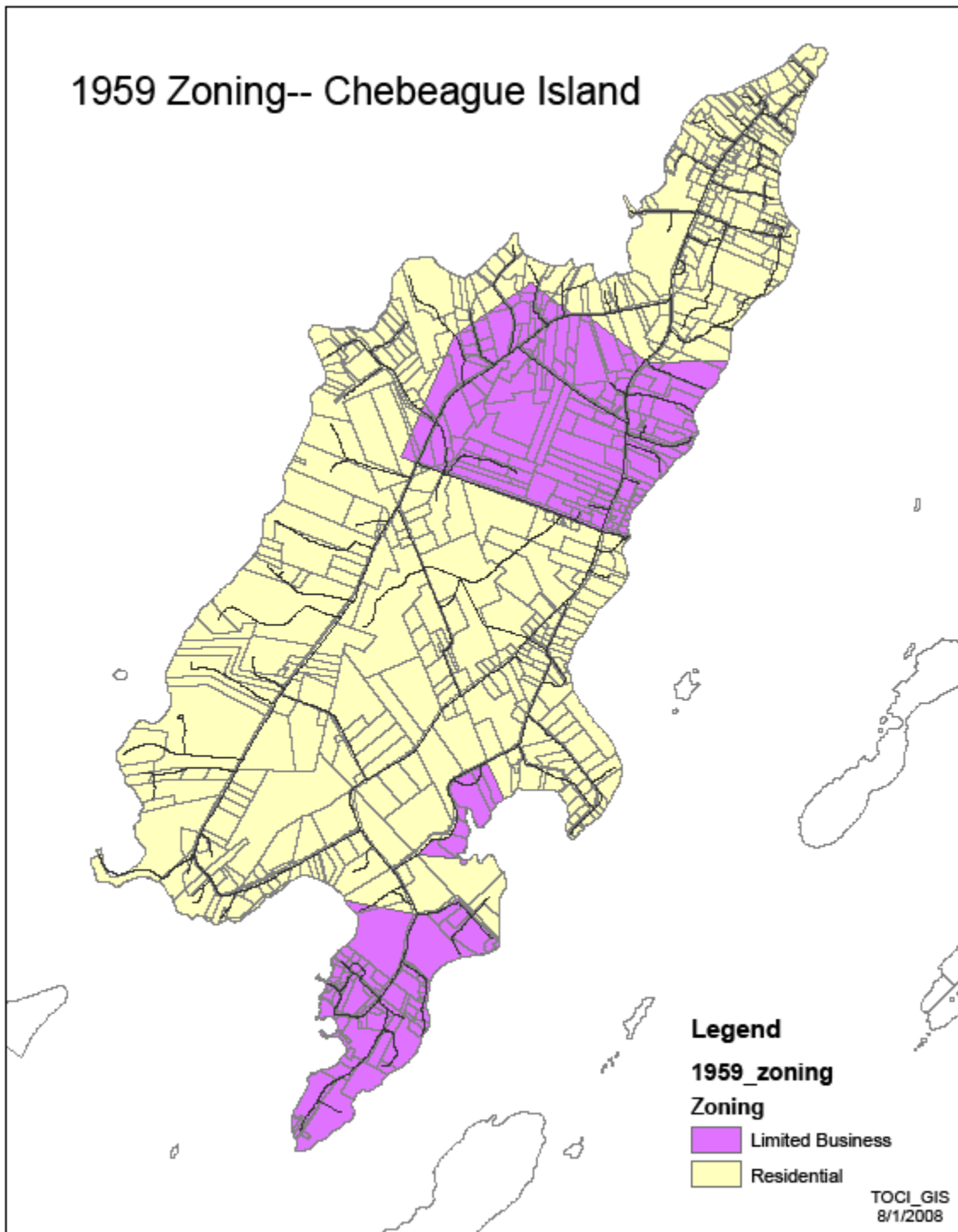
In much the same way, all of the uses in the commercial zone are also allowed in the residential zone as special exceptions given by the Zoning Board of Appeals and with site plan review by the Planning Board. Since businesses are generally small and island people think they should be encouraged, the formal zoning has done less to guide development than the interest of owners in minimizing costs and hassles by locating their business at their houses.

Because there is so little separation of commercial and residential land uses on the island, the Chebeague Land Use map comes in two versions. One shows the “traditional” version of land uses – a house is considered a residence only and is shown in yellow, regardless of whether it also houses a business. Commercial uses are shown in red, open space in green, and public and non-profit uses are shown in gray and purple. The other map tries to capture the actual mixture of uses, with businesses in houses shown in shades of orange. This latter map shows now little correspondence there is between the actual land use pattern and the zoning.

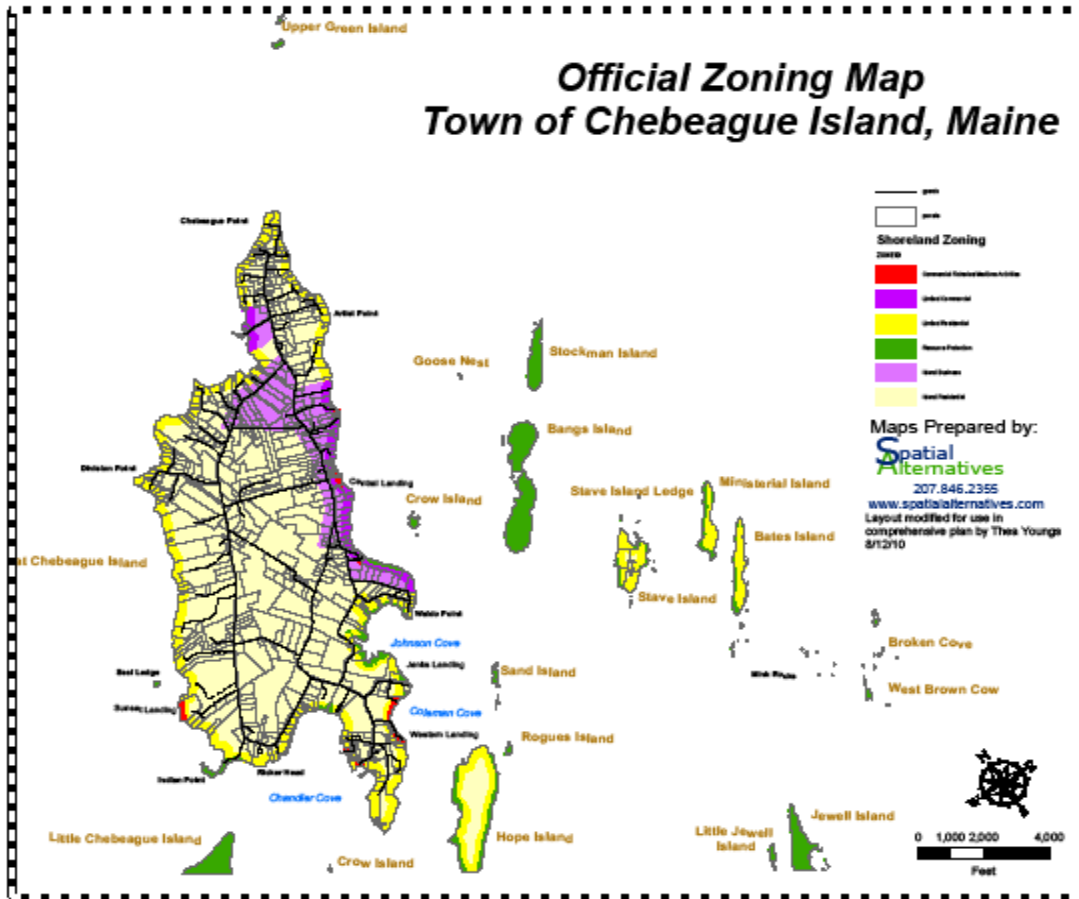
Indeed, the marginal relevance of traditional zoning in shaping development on Chebeague is emphasized by the fact that, as maps 6 and 7 show, the formal business district has been moved around on the island. Between 1956 and 1975 it was located on Deer Point and at the Center. Since 1975 it has included the Stone Wharf, a somewhat different part of the Center and the shore down to Rose Point.

This pattern of commercial development over the past ten years suggests that a there may be some increase in free-standing commercial buildings over the next ten years possibly as part of a public/private economic development initiative, say, by the Calendar Islands Lobster Company

Map 6



Map 7



or as part of a development at Sunset Landing. However, normally start-up businesses on Chebeague are likely to be small, with relatively little capital so that owners will favor the existing pattern of locating the business in or on the same lot as their houses.

Institutional and Public Uses

Buildings for non-profit and public uses, however, are a different matter, and often have freestanding, sometimes quite impressive buildings. In many cases this is because the operation of the non-profit or public organization requires specialized space such as storage for fire trucks, exhibition space for a museum or a large hall for meetings and performances. But there is also a symbolic dimension to the buildings. Each shows that this is an important community function and that community members have raised money privately to build and/or renovate the building.

Buildings housing non-profit organizations are:

- The Hall/Library and Health Clinic
- The Grange (once a school)
- The Island Commons
- The Church and Parish House
- The Museum of Chebeague History (once a school, then the Town Garage)
- The Recreation Center
- The Golf Club and Golf Course

Institutional growth has been significant on Chebeague since 1988. In 1982 year round residents found that with the help of summer people, they could raise significant amounts of money for island non-profits. After that, islanders used this capacity to build a system of non-profit services that was more elaborate than would have been possible in a community of 333 people. Some of these were institutions or services that might have been provided by the Town, and generally the Town supported the island's efforts, particularly by providing land in one case and an existing building in another, but it was not a major financial contributor to the actual construction of buildings.

Before 1988, Chebeague had 6941 square feet of institutional space in the Church, Parish House, Hall and Grange.

In 1990 the Library and Clinic were added to the Hall, adding 2984 square feet.

The Recreation Center built in 1998 on land belonging to the Town added 6,628 square feet,

The Island Commons, built 1994, added 3,493 square feet, though this was actually an addition to an existing house, donated by its owner. About half was new space.

Museum of Chebeague History, renovated the old Town Garage in 2002-03; 2,922 square feet.

Storage additions to the Hall (400 square feet) and the Parish House (480 square feet).

Total net institutional space added since 1988 is 15,160 square feet or more than twice the square footage that existed in 1988. This suggests that additional space for an island non-profit is built about every three years.

Though there is some feeling in the community that Chebeague has enough voluntary services with buildings that require maintenance and financial support, there are a number of possible future institutional projects: A free-standing Day Care Center on the School/Rec Center grounds

seems to be highest on the list. There is also interest in expanded health clinic or adding to the Island Commons.

Any or perhaps all of these projects may be done within the coming decade. They will probably not require a great deal of additional land, but, as services that are frequently used,

Public Buildings and land uses are:

The School built 1952

The Fire Barn built 1982 and Town Office created out of existing space in 2007

The Town Garage,

The Transfer Station and brush dump, built mid-1990s

The two public wharves and their parking areas: Stone Wharf built 1886; Chandler’s Cove wharf rebuilt 2000

All of these were built with Town or State money. Now that Chebeague is an independent town with a significant long-term debt, expenditure on public buildings will be evaluated very carefully. There has been interest in recent years in increasing the size of the Fire Barn, but a reconfiguration of the Town’s fleet of fire engines now seems to make that unnecessary. The Town Office is very small and noisy but there is no major movement to expand it. Both are discussed in the Public Facilities Inventory. The School is small and energy-inefficient. The School Committee is exploring building and renovation options, see the School Inventory.

Table 1: Non-Residential Development

Type Unit	1957	1988	1998	2008	2018
Free-standing Commercial	?	6	8	11	13
Institutional/Public	7	7	10	12	14
Total	7+	13	18	23	27

Residential Uses

In 2008 Chebeague Island had an estimated 468 dwelling units.⁶ Of these, 170 or somewhat over a third (36 percent) are occupied year-round. The proportion of year-round houses may have grown slightly from 30 percent in 1957 to the current 36 percent. But in recent years this relationship has been quite stable.

⁶ There are also two houses nearly complete but unsold. Counting houses in a small place produces more uncertainty than counting in a large one where missing data makes relatively little difference. The 2000 census reported Chebeague Island as having 499 housing units, and a count that same year based on the Town of Cumberland assessment records found 400 housing units. The estimated number of units given in Table 1 for 1988 and 1998 used the 2008 CPC total of 468 dwelling units and then subtracted the number of new units that were added to the tax rolls in each ten-year period.

There are a few year-round rental houses, but probably well over 90 percent of these year-round homes are owned by their occupants. The other 298 houses on the island are summer houses meaning that they are occupied between one month and 6 months of year. Seven of these summer houses are rented out in the winter to people living on the island in the winter, who then have to find other accommodations in the summer. Two year-round houses are presently under construction but are unsold.

The outer islands have at least six houses. Those on Bates, Ministerial and Stave are summer houses, while Hope Island has several year-round residences.

The Housing Stock

The Town of Chebeague Island has four somewhat separate housing stocks for different parts of the population:

1. Year-round working and retired long-time islanders generally own a stock of modest, year-round houses.
2. Retirees who have come “from away” to live on the island year-round, tend to own larger, more expensive houses.
3. Summer residents with quite a range of incomes own a wide range of small, medium and large, summer-only and winterized units on Great Chebeague Island and on Bates, Ministerial and Stave Islands.
4. Finally there is Hope Island, which is owned by a single, wealthy couple who use it as a farm. She is a year-round resident along with a number of employees.

While Great Chebeague also has a substantial supply of fairly expensive summer rental properties, it has very little rental housing for people who want to live year-round on the island without buying a house.

Summer houses comprise a somewhat different housing stock from year-round houses, though both include winterized houses and both include houses that have been in the other category. 212 houses were originally built as summer “cottages” or even more primitive “camps” and have always been used only in the summer. Many were built during the first two decades of the 20th century and, based on data from the Chebeague Housing Survey, about 60 percent are only marginally useable in the winter. More recently constructed summer houses are more likely to be fully winterized but “cottages” continue to be built.

Seventy current summer houses were originally built as year-round houses but are now only used in the summer. Many of these are 19th century Greek Revival or Victorian houses, often on or near the shore, that were particularly attractive to summer people in the 1950s and 60s. In recent years, the increase in assessed values and taxes on shorefront houses has led to some additional conversions of year-round to summer houses, as year-round people have moved inland where the taxes are lower.

This conversion of year round to summer houses has been just one indicator of the general strong demand for summer houses on Great Chebeague. It has tended to raise the value of year-round houses all over the island, placing them out of reach of many buyers. But the effect has been stronger for houses on or within sight of the shore, in Coleman Cove, for example. Demand has

been strong enough to begin to produce tear-downs of modest houses on the shore and their replacement by large summer houses.

At the other end of the spectrum, there are 124 houses that have always been year-round houses, and an additional 19 that were built as year-round houses, served as summer houses at some point, but are now used year-round again. Since Chebeague has many houses built in the 19th century, many of these “year-round” houses have been significantly upgraded over the years with indoor plumbing and modern wiring, heating and insulation. Much less common are the 21 summer houses that have been winterized and are now occupied year-round.

Housing Stock Projection

Fully 21 percent of all the houses on Great Chebeague and Hope Islands have been built in the 20 years between 1988 and 2008. Since 1998, Great Chebeague’s housing stock has increased at an average rate of 5.5 houses per year. As was explained earlier, this rate was unusually high because of the building cap controversy. The present depressed housing economy makes it unlikely that the rate of construction over the next ten years would be that high. However it can be used to project a high estimate of housing growth. If this 5.5 per year rate of construction continued for the coming ten years, the island would have 55 additional houses, for a total of 523 in 2018.

However, this “high” figure is in the same range as one arrived at by projecting population growth rates for year-round and summer households separately (see Table 2). GPCOG used Chebeague building permit data for 2000 to 2006 to produce a population projection of 378 year-round residents in 2018. The 2000 Census average household size of 2.09 projected the number of year-round houses in 2018 as 181, the equivalent of adding 1.7 houses per year. Using the 2008 household size of 1.98 produces 190 housing units in 2018. The rate of construction of summer houses since 1991 (3.25/year) was used to project 330 summer houses in 2018. Together these two estimates suggest that the total number of houses in 2018 would be between 521 and 530.

Table 2: Projection of Number of Housing Units on Chebeague Island

Type Unit	1957	1988	1998	2008	20 year average	2018
Year Round Houses	96	133	148	164	1.55/yr	181-190
Other Yr rd	?	4	6	6	.10/yr	10
Summer	224	233	259	298	3.25/yr	330
Total	320	370	413	468	4.9/yr	521-530

If a slow economy pushes the total growth rate back down to the rate of, say 3.5 units per year, the total houses in 2018 might be as low as 503. This much of a slow-down may not happen on Chebeague, however, since the baby-boom will begin to retire around 2011 and at least some long-time summer residents may have been preparing for some time to retire year-round to Chebeague.

If the economy remained the same as it had been in the first half of the 2000 decade, then the new houses would probably be like those built in recent years – all owner-occupied, large summer houses, houses for retirees “from away”, fairly large speculative houses not on the shore and a few modest houses for year-round working families. Apartments, duplexes or year-round rental units are not very likely, though there are several individuals now, as well as CICA, who see that there may be a need and even some demand for them.

This increase of anywhere between a low of 35 or highs between 53 and 62 houses over the next ten years is what market demand might produce. This would accommodate projected population growth, assuming that the composition of the population remains as it is. In general, Chebeaguers, summer and year-round, are not enthusiastic about increased development. The most common concern on the survey for the 2000 Long Range Plan, mentioned spontaneously by 232 of 537 respondents, year-round and summer alike, was “growth and development”. But islanders generally accept the idea that new generations of existing families, whether year-round or summer, should be able to live on the island.

Where Will this Housing Go?

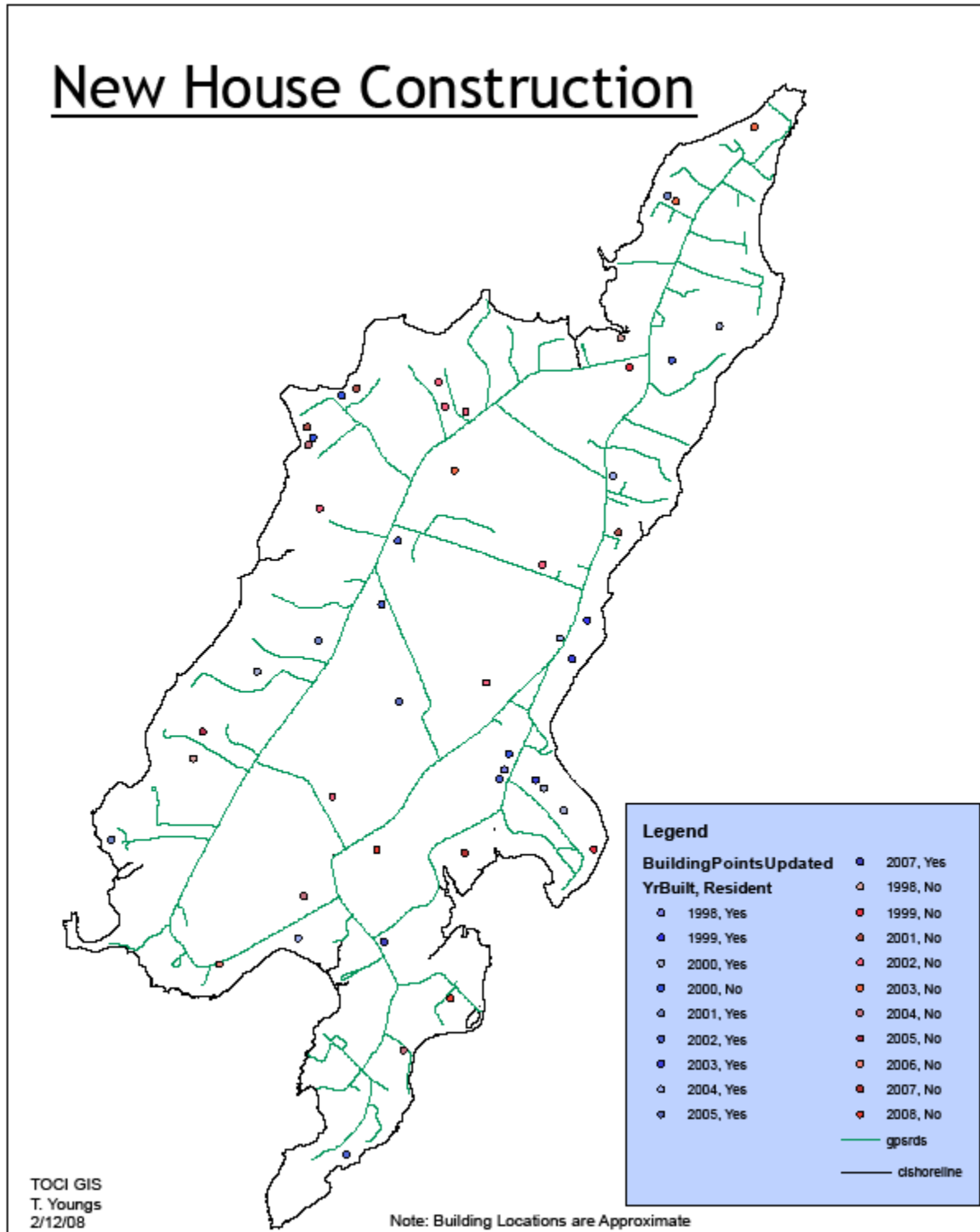
At a minimum, given the current zoning requirement for 1.5 acre lots, this new development would take up somewhere between 50 and 100 acres of land. It well might consume far more. The average lot size of houses since 1998 has been 3.7 acres (averaging lot sizes ranging from .2 to 45 acres).

Chebeague has had 5 subdivisions since the 1970s Division Point and Division Shores (26 lots together), Cart Road Acres (12 lots, one permanently undevelopable because of a stream and another undevelopable because of septic issues), Rose Point (8 lots) and School House Road (5 lots). The development that has occurred since the 1980s has largely built out these subdivisions. In recent years a three-lot subdivision on Cottage Road was added and one on Roy Hill Road was designed, approved and then rescinded. But, as Map 8 shows, of the houses built since 1998, about three quarters have simply been on single parcels.

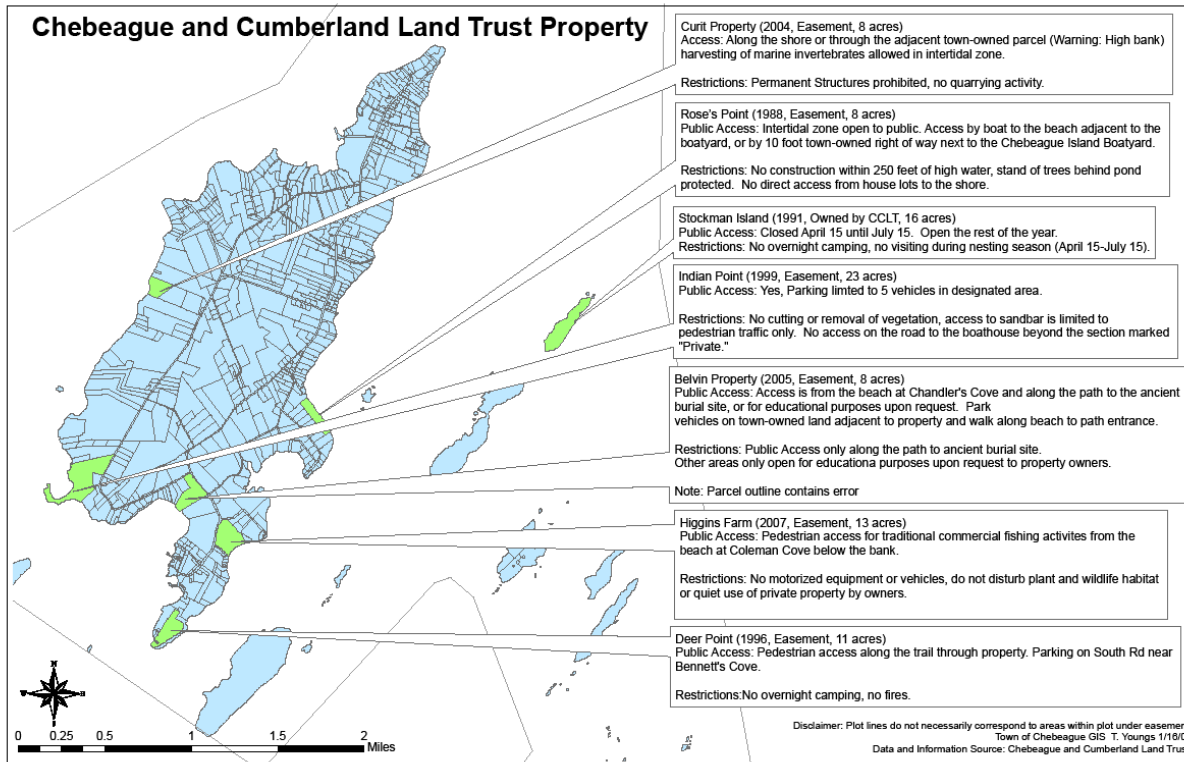
Open Space

Since there is an inventory focused on Open Space, this discussion will simply summarize that there are a number of sizeable parcels of land shown on the Land Use Maps and on the separate map of Land Trust holdings, that currently have some protection from development. How much

Map 8: New House Construction, 1998-2008



Map 9



protection depends on how they are being protected. Land held in conservation easement by the Chebeague and Cumberland Land Trust is the most secure. Land held by the Town and the State for open space is fairly unlikely to be developed. Land that is put into the State's Tree Growth Program to lower taxes can be taken out of the program and developed though the owner must pay a substantial penalty.

The rest of the vacant land on the Land Use Maps has no formal protection, though some would be difficult to develop because of constraints such as the presence of wetlands or steep slopes. Land that is economically productive in its undeveloped state, for example as farmland, may be

The past 20 years has seen a large increase (though from a small base in land given substantial protection from development. Table 3 includes land owned by or with easements to the Land trust, and land owned by the Town specifically for open space

Table 3: Open Space Protected (in acres)

1957	1988	1998	Change	2008	Change	2018
0	16 ac	43 ac	169%	95	121%	210 (@121%)

Future Land Use: How Much and Where to Develop

The bottom line of the current land use maps is that development on Great Chebeague is decentralized – more now because of the common use of cars and the diminution of the number of stores in the Center. This is not “sprawl” the way it often occurs on the mainland, with strip malls along highways, and large-lot subdivisions on cul-de-sacs gradually eating away productive farmland, raising the cost of road-building, increasing fire and ambulance response times and lengthening school bus routes. But, with the whole island zoned for 1.5 acre lots, the gradual development of houses and buildings for non-profits does eat away at the remaining, unprotected open space, slowly reducing the rural “feel” of the island.

This brings to the fore the issue of where various kinds of development will occur in the future. Should the Town make an effort, with the modest tools available to it, to direct development to particular parts of Great Chebeague and to keep other parts relatively rural? The visioning survey indicated that residents would like to see Chebeague retain its rural character. To some people this means simply keeping the present low-density zoning. To others it means allowing slightly higher density development in some areas in order to keep other places undeveloped.

The State says this is the central purpose of a comprehensive plan.

The Future Land Use Plan divides the community into geographical areas identified as either most suitable for growth or most suitable for rural uses. The Future Land Use Plan also identifies critical resource areas within the community. The Future Land Use Plan will be the focus of the Office review for consistency with the Act.

An abbreviated version of the State’s review criteria describe each kind of area the plan should include:

A. Growth Areas

A community’s Future Land Use Plan must identify a growth area or areas. The designation of growth areas is intended to ensure that planned growth and development and related infrastructure are directed to areas most suitable for such growth and development. Land areas designated as ***growth area*** must be consistent with the following provisions.

The Future Land Use Plan must designate as ***growth area*** those lands into which the community intends to direct a minimum of 75% of its dollars for municipal growth-related capital investments made during the planning period.

Built-out or developed areas that may not have capacity for further growth but require maintenance, replacement, or additional capital investment to support existing or infill development must also be designated as growth areas.

Growth areas must be limited to land areas that are physically suitable for development or redevelopment.

B. Transitional Areas

The Future Land Use Plan may designate as ***transitional area*** those land areas which the community identifies as suitable for a share of projected residential, institutional, commercial

or industrial development but that is neither intended to accept the amount or density of development appropriate for a growth area nor intended to provide the level of protection for rural resources afforded in a rural area or critical rural area. Designated transitional areas are intended to provide for limited suburban or rural residential development opportunities. Land areas designated as **transitional area** must be consistent with the following provisions:

Transitional areas may not include significant contiguous areas of working farms, wood lots, properties in state tree growth and farm and open space tax programs, prime agricultural and forestry soils, unfragmented habitat, or marine resources. . .

Transitional areas must be compatible with designations in adjacent communities or provide buffers or transitions to avoid land use conflicts with neighboring communities.

C. Rural Areas

The community's Future Land Use Plan must identify a **rural area or areas**. The designation of **rural areas** is intended to identify areas deserving of some level of regulatory protection from unrestricted development for purposes that may include, but are not limited to, supporting agriculture, forestry, mining, open space, wildlife habitat, fisheries habitat and scenic lands, and away from which most development projected over ten (10) years is diverted.

A community's Future Land Use Plan must designate as rural area or areas any portion of the community consistent with the following provisions:

Rural areas must include agricultural, forest, open space, and coastal lands important to the local or regional natural resource-based economy, including:

- a. working farms, wood lots, and properties enrolled in current-use tax programs related to forestry, farming or open space;
- b. large, unfragmented, undeveloped areas of prime agricultural soils;
- c. important areas for nature-based tourism and outdoor recreation; and
- d. unfragmented habitat.

D. Critical Resource Areas

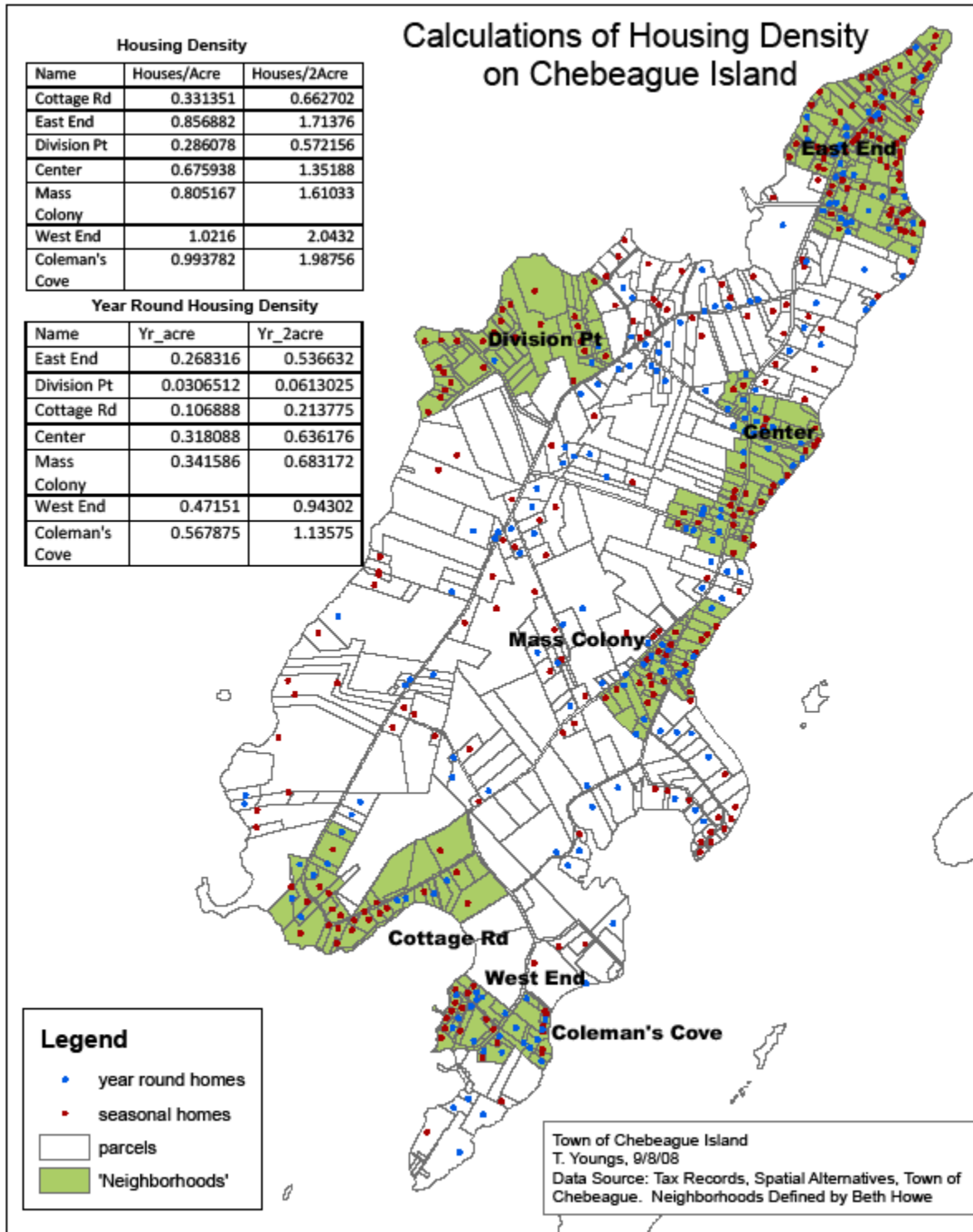
The Future Land Use Plan must identify and designate **critical resource areas** as defined in this Chapter. Land areas designated as **critical resource area** must be consistent with the following provisions:

Critical resource areas are those areas in a community most vulnerable to impacts from development.

Neighborhoods and Growth Areas on Great Chebeague

At the beginning of the planning process the Chebeague Comprehensive Planning Committee thought that Chebeague was too small and had too decentralized a development pattern for this idea of growth, transitional, rural and critical resource areas to be useful. Considerable research was done to explore whether Chebeague met the specific criteria laid out in the State Planning Guidelines for not defining growth areas. It was determined that Chebeague did not meet the criteria.

Map 10



A meeting with representatives from the State Planning Office indicated that the State's primary concern is to get communities to think about where they plan to make investments in public infrastructure, perhaps with State Aid such as roads, sewers, public water supply or public buildings or facilities -- that would shape the pattern of future development.

Later a subcommittee on neighborhoods was formed to explore what might be suitable growth areas on the island, as well as to consider whether there were distinct already-developed areas that might be called "neighborhoods" that residents identify by name and that have distinctive physical development patterns, for example similar time of development, similar lot sizes, setbacks from roads or a common architectural tradition. These criteria might then be used to identify areas that were already fully developed but should be defined as already-developed growth areas (A.2 above) and areas that might provide opportunities to become growth areas. They might also be useful in revising the Zoning Ordinance to provide lot requirements suitable for different areas of the island.

As part of the research on whether Chebeague could avoid the requirement for growth areas, Map 10 was developed exploring the housing densities of various parts of the island. This analysis indicated that although Chebeague does not have any area where the average lot size is in the range of half an acre, it has several where the average is about one acre which, by State criteria, is considered "village" density. These, then, are areas that might be identified as already-developed "growth" areas. By figuring the range of average densities of actual development the map illustrates graphically how the expectations about densities, the lot sizes in various subdivisions, and the lot sizes in successive versions of the Cumberland Zoning Ordinance have changed over the years.

However, there was no consensus on the subcommittee that there are definable neighborhoods on Chebeague or that the idea of "neighborhoods" might be useful in defining "growth" and "rural" areas for the plan. The primary guideline that has been agreed to so far is that development should take place where it is most appropriate.

The State planners indicated that growth areas do not need to be primarily residential in character but could encourage development – residential or commercial – in an area that includes some infrastructure that might, at some point, need State funds. The Planning Committee does not anticipate that Chebeague will require state road, water or sewer funds for any existing developed area on the island. The kind of projects that the Town might want State funding for are more likely to be a new wharf, a new school, some other public building or affordable housing.

Both for this reason, and because it might be a pleasant and perhaps affordable place for houses, the area around the School and the Rec Center has tentatively been suggested as a new growth area. If Sunset Landing became a major landing area, as is suggested in the inventory on transportation to the mainland, then the School growth area might include it or it might be considered as a separate growth area. The area along North Road around the Fire Barn and Town Office, and/or the area around the church might also be growth areas, but they are both an aquifer recharge area which may make it unsuitable for village-density development.

The suggestion has also been made that rural areas be defined by beginning with areas such as wetlands that are the least suitable for development such as wetlands. An additional candidate for rural area designation would be land that has soils particularly suitable for farming or forestry.

At a minimum, land in the Shoreland Zone that is required by the Shoreland Zoning Law as to be in Resource Protection because of wetlands or steep slopes (shown in Map 2) but that is presently not zoned RP, should be designated as critical resource areas.

Effectiveness of Current Land Use Regulations

After Chebeague seceded from Cumberland, a policy decision was made by the Transition Committee to adopt for the new town the ordinances that had governed the island while it was part of Cumberland. They were only modified to take out material that related exclusively to the mainland. So land use in the Town of Chebeague Island is governed by Cumberland's Zoning and Subdivision Ordinances, including the current State Shoreland Zoning provisions. The Town does have a new Floodplain Management Ordinance written by the State Planning Office for us during transition. The Transition Land Use Subcommittee recommended to the Transition Committee that the land use ordinances be revised after a comprehensive plan had been developed and adopted.

The basic Cumberland Zoning and Subdivision Ordinances are not very well suited to shape development on Chebeague. As was indicated already, the zoning districts bear little relationship to the way land is actually used.

In many cases the zoning regulations are more detailed than is useful for the island. The approval standards and criteria for vehicular access is design for larger scale development than occurs on Chebeague. Sections on multiplex dwellings and signs are very elaborate. There are also permitted uses such as private airports and heliports and commercial extraction of groundwater that may be inappropriate.

The provisions on mobile home parks are an example of this kind of detailed regulation. The new Town of Chebeague Island allows manufactured and mobile homes in both of its zoning districts. It has some of the former but none of the latter and no mobile home parks. The Cumberland regulations for mobile home parks would certainly discourage anyone from trying to establish one.

The setbacks are also much larger than traditional development on Chebeague; and this more "suburban" pattern for expected development is seen even more in the Subdivision Ordinance. "Traditional" lot size and setback patterns vary from hamlet to hamlet on the island but the Cumberland Zoning and Subdivision Ordinances never reflected these differences.

Subdivision Ordinance:

The ordinance sets standards for subdivisions that are more elaborate and suburban than is required or useful on the island. The street standards, for example, require a residential access street to have a 50' ROW with 20' of pavement and a 4' shoulder on either side.

There is a common feeling on Chebeague that “subdivisions” are bad – they represent large-scale, suburban style development that is inappropriate for the island’s rural character. There is no recognition that Town review (which has only applied to subdivisions) could create more island-friendly development than piecemeal, one lot at a time development by protecting trails and reserving open space.

The Town of Cumberland had a fairly extensive and complex land use regulation system and personnel to administer it. After WWII the mainland began to have rapid suburban development and its planning and regulatory capacity grew as the Town developed. It adopted zoning initially in 1949, worked with GPCOG on a comprehensive plan and new zoning and subdivision ordinances in 1959. In the 1980s and 90s it developed more elaborate plans and ordinances which were primarily oriented to dealing with issues related to suburban development. In recent years these focused on “the costs of sprawl” in overcrowded schools and increasingly expensive municipal services. In 2001 a growth cap was added to the Town’s land use regulations.

Administrative Capacity to Manage Growth

As part of Cumberland, Chebeague was served by a nearly full-time planner, a Code Enforcement Officer and separate electrical and plumbing inspectors. However, over the years, Chebeague and the mainland diverged in their planning and regulatory concerns. Sometimes these differences were recognized in the land use ordinances, for example in the provisions related to private roads. Sometimes the island and mainland went their separate ways -- in the late 1990s the Town developed an open space plan for the mainland, while Chebeague developed its own Long Range Plan which was adopted as part of the Town’s Comprehensive Plan.

During the transition to independence, the Transition Committee made a practical policy decision to start the new Town off with the same ordinances it had been governed by in Cumberland. Builders on the island were used to working with the building code and favored having the new Town adopt it. Cumberland’s Zoning and Subdivision Ordinances were edited to take out language that had no bearing to Chebeague, but otherwise were adopted as is. Even the building cap was carried over, with a limit of 4 units per year on the island.

The new Town of Chebeague Island has much less capacity to manage land use. The job description of the Town Administrator includes planning, but the initial administrators had no background in planning or land use regulation and this work devolved to the Chair of the Planning Board who had been a planning professor. The Town also has a Code Enforcement officer who comes one day a week. He staffs the Zoning Board of Appeals. During two of the years during which the new Town developed its comprehensive plan, it had the assistance of a full-time “fellow” from the Island Institute, who was responsible for setting up a GIS for the Town and preparing maps for the plan.

Once the Comprehensive Plan has defined the Town’s vision of itself and strategies for reaching those goals, then the various land use ordinances can be revised to be more appropriate to the island’s development patterns and trends. This should, in some respects, make the job of land use regulation simpler.

In line with the Island's strong traditions of doing things through voluntary organizations, the Chebeague and Cumberland Land Trust increases the Town capacity to manage land use (though not the Town's land use regulations) by buying and accepting easements on important open space.

Issues

How should growth areas be defined on Chebeague – criteria?

What densities should be allowed in the growth areas?

How should rural areas be defined – criteria?

How will “rural areas” differ from “open space” and/or “critical resource areas”?

Should we have “transitional” areas and what would be the criteria for them?

How should revisions of the Town's land use ordinances deal with the lack of separation of residential and commercial land uses?

What kind of zoning do we want – traditional separation of uses or performance zoning -- allowing uses according to whether they can meet set criteria – or some combination of the two?

Should we continue to have a subdivision ordinance (other than whatever minimum the State requires)?

What mechanisms can we use to keep rural areas rural and encourage development to occur in growth areas?

What kind of tools can a small community like Chebeague, without a lot of planning/engineering/enforcement staff realistically have?

Open Space Inventory

Some of the islands in the Town are still undeveloped and rural. The outer islands, with very restricted access, still feel little pressure for development. But, as the Land Use Inventory indicated, Great Chebeague and Hope Islands have seen the development of many houses and institutional uses, as well as some businesses over the past 20 years. Although both islands still have some rural qualities they are now quite developed.

The increasing pace of development has made residents aware that open areas, especially on the shore, that they have enjoyed using for picnics and swimming in the summer or snowy walks in the winter could easily be occupied by houses. This realization has led to an increased effort, particularly by the Chebeague and Cumberland Land Trust, but also by the Town to protect these open spaces from development.

“Protection” here is a relative term. Some land may be preserved in its natural state and be kept completely accessible to the public in perpetuity. But not all protected land remains in its natural state, or is open to the public or is protected forever. The idea of open space is closely connected to the idea of “access”. People have physical access to public open space. But sometimes, as in the case of farmland or a conservation easement, access may be limited – to the view across it, or for certain purposes, for example. Chebeague has a long tradition of people being able to go wherever they want on the island. But though this tradition lives, access is becoming more formalized.

Functions and Values of Open Space

Open space is land that is kept completely or moderately undeveloped because it has value for the community as undeveloped land. The functions it serves that give it value are ones that have been discussed in the preceding natural resource inventories: cleansing the water, providing economic value in crops and fish harvested, providing habitat for birds, animals and plants, maintaining the natural beauty and rural character of the islands, and providing places for recreation.

Cleansing the Water

On an island that relies on a sole source aquifer for water supply, on private septic systems, and on fishing in Casco Bay for a significant part of its economy, the quality of the fresh and sea water on the islands and in the Bay is a critical concern. The central issue discussed in the water resources inventory is how to keep the surface runoff into the Bay and the groundwater under the islands from becoming polluted. Pollution can come from many sources: septic systems, bird and animal droppings, herbicides and pesticides put on gardens, golf courses and agricultural fields, oil from cars and heating oil tanks, road salt . . .

Aquifer recharge areas are particularly important and vulnerable for maintaining the groundwater. They are areas where the water can seep easily and in substantial quantity into the aquifer, so they are important in replenishing the water supply, but can also easily pollute it. On Chebeague the areas mapped as aquifer recharge areas already have some development. How much more is safe?

Wetlands in the center of the island and at the shore are also important for absorbing surface runoff so that sediments settle out and pollutants can be filtered out of the water before it reaches the aquifer or the Bay. The State Natural Resources Protection Act and the Shoreland Zoning Act define coastal wetlands and freshwater wetlands with at least 20,000 square feet of open water or emergent marsh vegetation to have “special significance”. In the shoreland Zone some are supposed to be designated as Resource Protection. Under NRPA, permitting for alteration of wetlands of special significance is more strict than for other wetlands.

Fishing, Recreation and Casco Bay

As the marine resources inventory points out, most of the area of the Town of Chebeague Island is water. This is literally our largest open space. It is also commonly owned, though also substantially regulated. It has many functions. It provides habitat for hundreds of species of animals and birds. Some, like lobsters and groundfish are economically valuable. Many others are necessary parts of the food chain that sustains these desirable species; and all have intrinsic worth as members of a rich ecological system. The Bay is also used intensively for recreation – swimming, sailing, recreational fishing and simply enjoying the view.

Agriculture and Forestry

Much of Chebeague’s land has economic value for agriculture and forestry. Trees will grow up in most places, but not all land is suitable for commercial agriculture or forestry. At the moment very little land is used for economically viable farming or forestry, but would it make sense on Chebeague to use the land best suited to agriculture for that purpose? Agriculture and forestry do not leave the land in its natural state – crops are grown, animals graze and trees are cut. But these rural land uses are traditional on the Town’s islands and residents think of the land as “open space” rather than as “developed” land, even if it is privately owned and no access is allowed.

Active Recreational Uses on Land

Areas like the Golf Course, Tennis Courts, ballfield, playground, swimming pool, Sanford’s skating pond and the Chandler’s Cove field and beach are all used for active recreation. All of these uses have economic value, whether or not the use is free of charge or paid for. Like an agricultural field or a managed forest, a ballfield or golf course is far from being natural open space. On Chebeague some of these facilities belong to the Town, some belong to private clubs, possibly available to the public for a fee, and some are privately owned.

Animal Habitat

All the functions of open space described so far are functions that primarily benefit people. But before there were people on Chebeague there were animals on the land, birds in the air and creatures in the sea. Obviously they can have economic value to people – we hunt and fish for them. But they have value in and of themselves. For many years people living, farming and fishing on Chebeague did not particularly concern themselves with the habitats needed for wild animals to thrive. Farmland probably sheltered somewhat different animals than the present second growth forest does; and it is difficult to know what species have declined and increased over the years. But now people understand that if they wanted to feed the birds, hunt deer, watch

the turkeys cross the road or watch a fox dive for a vole in a snowy field, they have to provide habitat for those animals.

The ecosystem of any unconnected island is likely to be somewhat different from that on the mainland. Great Chebeague doesn't have skunks or gophers, for example. Animals exist in balance with people, and much of our animal habitat is similar to that in low-density suburbs with near-by park space where deer, foxes and raccoons all thrive. But we might have a fisher and we are often visited by eagles, species that need much larger undeveloped areas.

The State Natural Resources Protection act defines seabird nesting islands, certain vernal pools, high and moderate value waterfowl and wading bird habitat and shorebird nesting, feeding and staging areas as significant wildlife habitat. Projects that would affect such habitat are subject to strict State review. The Town of Chebeague Island has all of these kinds of areas and needs to think about how they should be treated in our Comprehensive Plan.

What Open Space Does the Town Have Now?

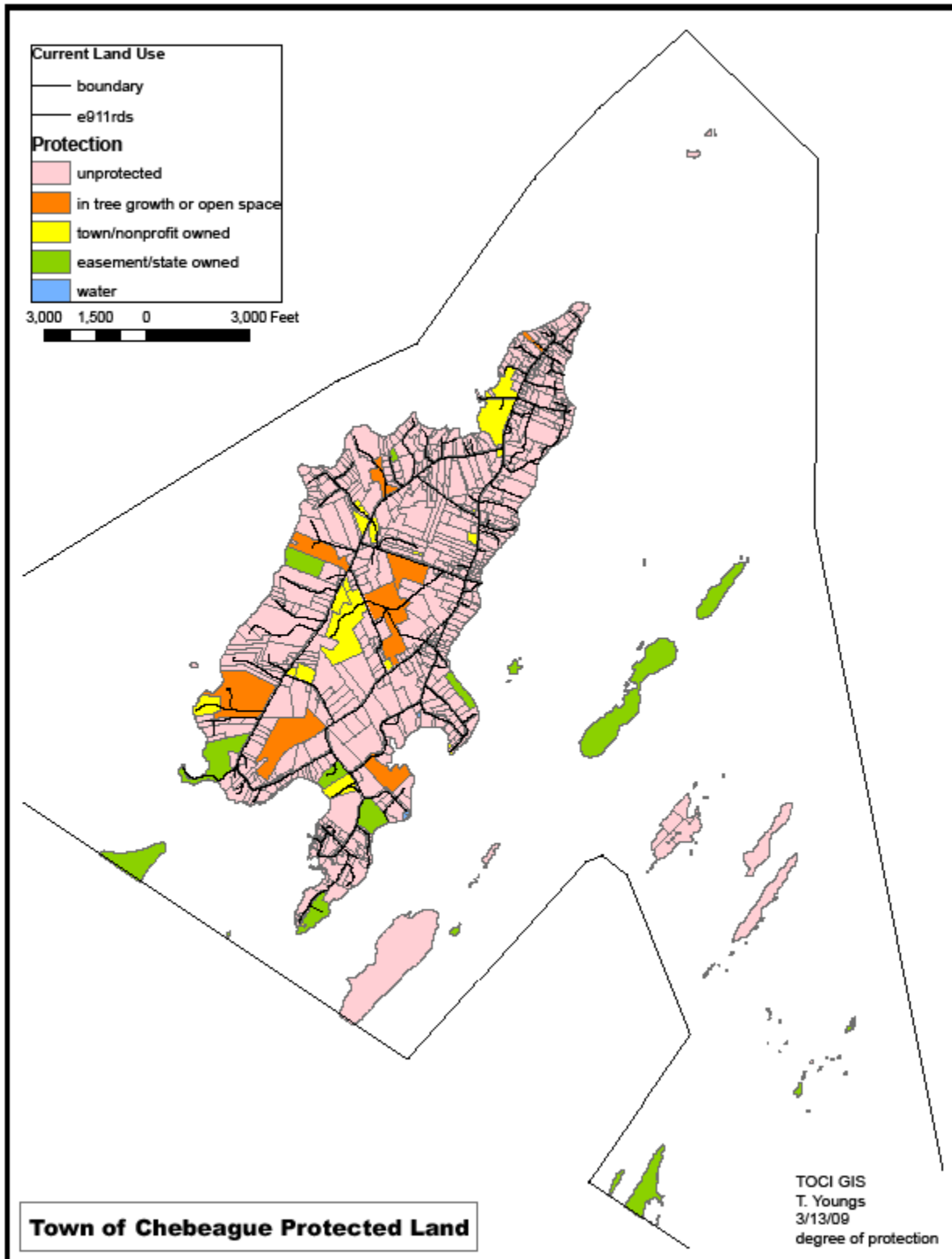
How much land is in open space in the Town of Chebeague Island depends on the definition of open space. Here the primary consideration is how much protection the land has from future development. Types of open space are ranked from land that has little protection to land that has strong protection from future development.

In the past, the issue of protection was not so important. There was lots of undeveloped land on the island, residents were often related and, in any case, knew each other. Keeping others off your land was not an issue. There were no public roads on Great Chebeague until after the Civil War. Before that, islanders wore farm roads and informal paths across other people's properties. In the early days, some people built houses on land that they did not get a deed for until years later. There may also have been a tendency, not unique to Chebeague, to assume that land that was undeveloped would remain that way.

This kind of informality has become less common. The value of freedom of access is still strong, but people recognize that as more development has occurred, there is also less land that isn't close to someone's house. They also see that some residents – the impression is, more than before -- insist on their rights to keep others off their property. Some owners think of their land as a commodity to be divided and sold. Others feel a sense of loss when this happens.

This has gradually lead to greater formalization about what land is public or private, accessible to the public or not accessible. Indeed, now a creative tension between the older image of all the land accessible to all people on the island and the newer one of carefully defined and delimited public and private rights to land drives the concern among residents with making sure that access and open space is formally protected.

Map 1



Another aspect of open space is who owns it. Much of the land that is in some kind of formally protected “open space” is privately owned but protected either through state programs that tax land at its value for a current use (forestry, open space or farming) rather than at its highest and best use for housing or commercial development, or through the granting of easements to the non-profit Chebeague and Cumberland Land Trust. Some open land, such as farmland, may have no formal protection at all. Finally, land that is owned as public open space may be owned by the Town or by the State of Maine.

The Comprehensive Plan for a Town like the Town of Chebeague Island, cannot control the decisions of private individuals or other governmental units. It can only suggest ways of working with them and look for incentives to encourage them to accept the goals of the Plan.

Map 1 shows all the open space in the Town, designated by ownership and ranked, more or less, from land that has little protection to land that has strong protection from future development. Additional maps using this ranking are provided to explore not only what land is protected but the suitability of land for various kinds of protection

Undeveloped land:

This includes all parcels of land without a building that are not in one of the categories below. It is land that is zoned for 1.5 acre lots. This miscellaneous collection of land has no particular function as open space, though some individual parcels may have value for one open space function or another.

Informal and formal trails:

Great Chebeague has many informal trails from one part of the island to another. Some of these follow old roads in which the public has rights. Others simply cross private land and exist at the sufferance of the land-owner. The Land Trust has done some work with owners about formalizing trails, but because of fragmented ownership, there have been few results. There is a draft map of trails but it may not be accurate and the lack of formality of the trails themselves means that its publication may cause more harm than good.

The current Subdivision Ordinance requires that trails shown on a Town map be preserved, though not necessarily in exactly the same place, when a piece of land is subdivided for development. But Chebeague has few formal subdivision applications.

Access Points, especially to the Shore:

The ocean view and access gives the shore a high economic value, value that has risen sharply over the past 20 years as shorefront property has gotten scarcer. What does that mean for access? Sometimes “people only own to the top of the bank”, leaving the shore itself to another owner; or they may own to the top of the intertidal. But in Maine it is also possible for people to own to the bottom of the intertidal zone, preventing others from walking on the shore⁷ with three exceptions.

⁷ The ability of owners to prevent others from using the beach was upheld by the Maine Supreme Court in the Moody Beach case. However it is important to remember that the case only applied to Moody beach where the property owners owned the rights to the shore down to the low tide line. Other ownership patterns create different rights.

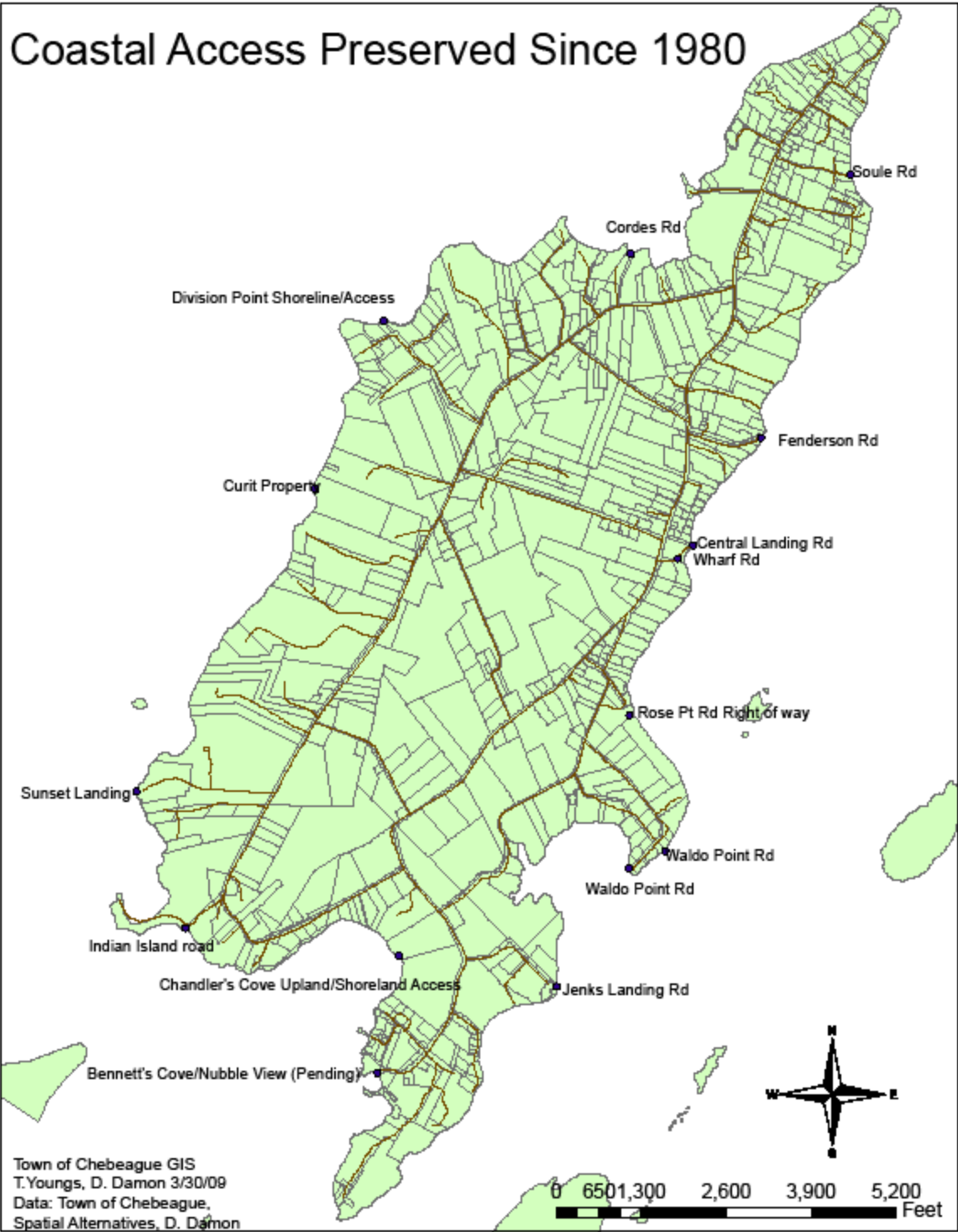
Common law in Maine, dating to the Colonial period gives everyone access to the shore for “fishing, fowling and navigation”, but not access for walking on the beach, swimming or enjoying the view. Where most of the land along the shore is privately owned, access for all or part of the public is especially valuable, economically but also psychologically.

Over the past 25 to 30 years Chebeague, initiated and pushed especially by Donna Damon, has pursued an active policy of acquiring and preserving existing public access to the shore. The central problem was that public access was threatened as properties changed hands and new owners were either unaware of earlier property rights and arrangements or didn't care. Long time residents saw their “rights” eroding as their use of paths and the coast, which islanders thought of as in the public domain questioned. Increased land values, changes of ownership, change of use, unwillingness of landowners to accept traditional use all reduced access. The loss of access creates an imbalance in supply versus demand. If you have 100 people who want to go to the shore and there are 30 places to go, you can expect three to four people at each place, but if you have only three places, you can expect 33, and if only one, you have created a crowded resort.

Previous actions: The Town of Cumberland (Council and Managers Benson and Shane) supported Chebeague's need to secure access to the shore. To that end they applied for grants, hired researchers and surveyors and even hired lawyers to support contested roads. In addition they bought land such as Chandler's Cove, Sunset and Curiot6 to ensure various types of access would exist. Coastal access needs are as diverse as these three properties: Chandler's Cove for recreation, Sunset for transportation and Curit for access to clam flats and “solo contemplative recreation.” The Town also reaffirmed their rights in previously accepted roads and negotiated additional coastal access with landowners. The Town also partnered with the Land Trust on several projects. (see list below of Coastal Access initiatives 1980 to the present).

Town Coastal Access History Since 1980 (Map 2)

- a. Division Point Shoreline/Access (ROW/10' above high water)
- b. Jenks Landing Road Reaffirmation
- c. Chandlers Cove Upland/Shoreline Access (purchased fee)
- d. Sunset Property
- e. Soule Road Reaffirmation
- f. Fenderson Road Reaffirmation
- g. Wharf Road Reaffirmation
- h. Central Landing Road Easement
- i. Cordes Road Reaffirmation (Easement)
- j. Rose Point ROW 10'
- k. Indian Island Road Reaffirmation (Easement)
- l. Charleston Rd Declaration
- m. Waldo Point Rd Declaration
- m. Waldo Point Lots Reaffirmation
- n. Curit Property Fee Acquisition
- o. Nubble View (Pending)



Map 2

p. Upgrade of Stone Wharf

History since 1986

- a. Roses Point Shoreline/Access Easement
- b. Deer Point Upland/Shoreline/Access Easement
- c. Chandlers Cove Upland/Shoreline Access/
- d. Indian Island Upland/Shoreline/Access Easement (Redefinition of a Town road)
- e. Curit Property Upland/Shoreline/Access Easement
- f. Higgins Farm/Coleman Cove Upland/Shoreline/ Access Easement

Town Support: To have a successful public access program the Town must be committed to the concept of public access. The first step is for the Selectmen to create a Town Advisory Committee to inventory/research trails, coastal access points and lands that are thought to be public or have been used by the public. It should work closely with the Chebeague and Cumberland Land Trust. The 1998 *Coastal Access Study* is a place to start, but the Town should develop a Comprehensive Public Access Plan that identifies targeted properties and justifies why they are included. Money should be included in the Town's Capital Budget for research and acquisition.

The process should identify traditional access points, paper streets, places that may have had public access in the past, and a wish list of privately owned places that would enhance the life of the residents if acquired. This list must then be prioritized according to which places should be focused on first because they are particularly critical or are endangered.

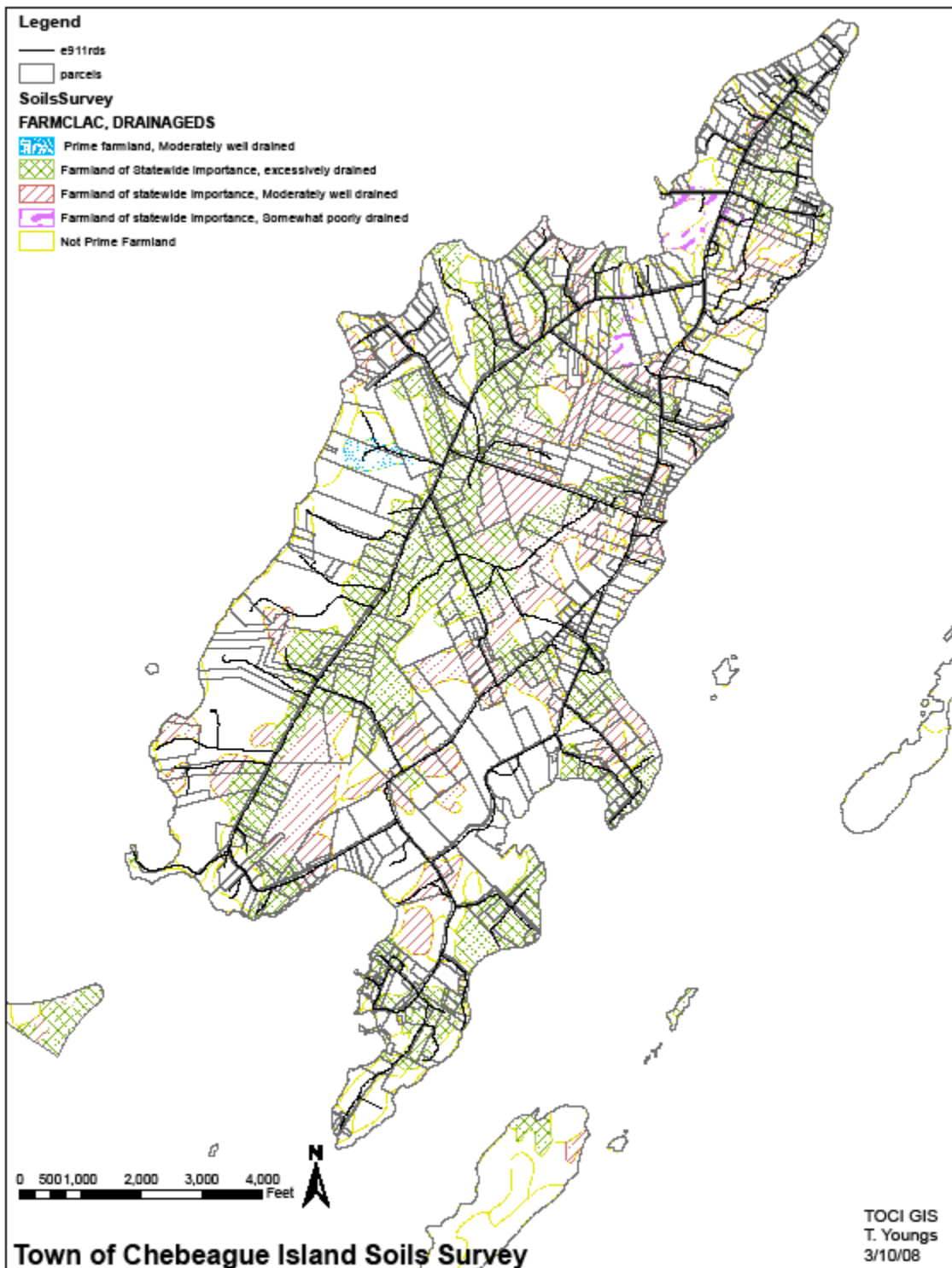
Detailed research on deeds and surveys on their legal status must be carried out.

There are a number of mechanisms that can be used by the Town, the Land Trust or both to acquire access points, particularly purchase of fee or easement or voluntary gifts of easements. In some cases land that is already in the public domain may simply need to be inventoried and documented.

In either case, there is likely to be a long process of negotiation with the land owners. Sometimes owners are willing to provide access, sometimes they are not, and sometimes they are unsure. During the negotiation process it is necessary to keep communication open and to deal realistically with legitimate concerns on both sides.

Ultimately, when action is to be taken by the Town, the Selectmen and Town Meeting will determine which roads/paths/parcels/ROWs will be pursued, so the committee needs to be sanctioned as they apply for grants and research projects. The Town must be prepared to hire surveyors and lawyers if necessary to bring the project to fruition. The quality of the researchers is more important than the quantity. A good researcher can save the Town a great deal of money. There needs to be "at least one person committed to devoting significant time to become

Map 3



familiar with all material in hand and doing actual research. Researchers can be contracted with a donation of time offsetting a grant match.

The community may need perseverance to keep the issue of public access a priority concern.

Land being used for farmland:

Map 3 shows the land suitable for farming. All of this land is zoned for 1.5 acre lots and is only accessible if the owner permits. At present only one owner chooses to use his land for farming.

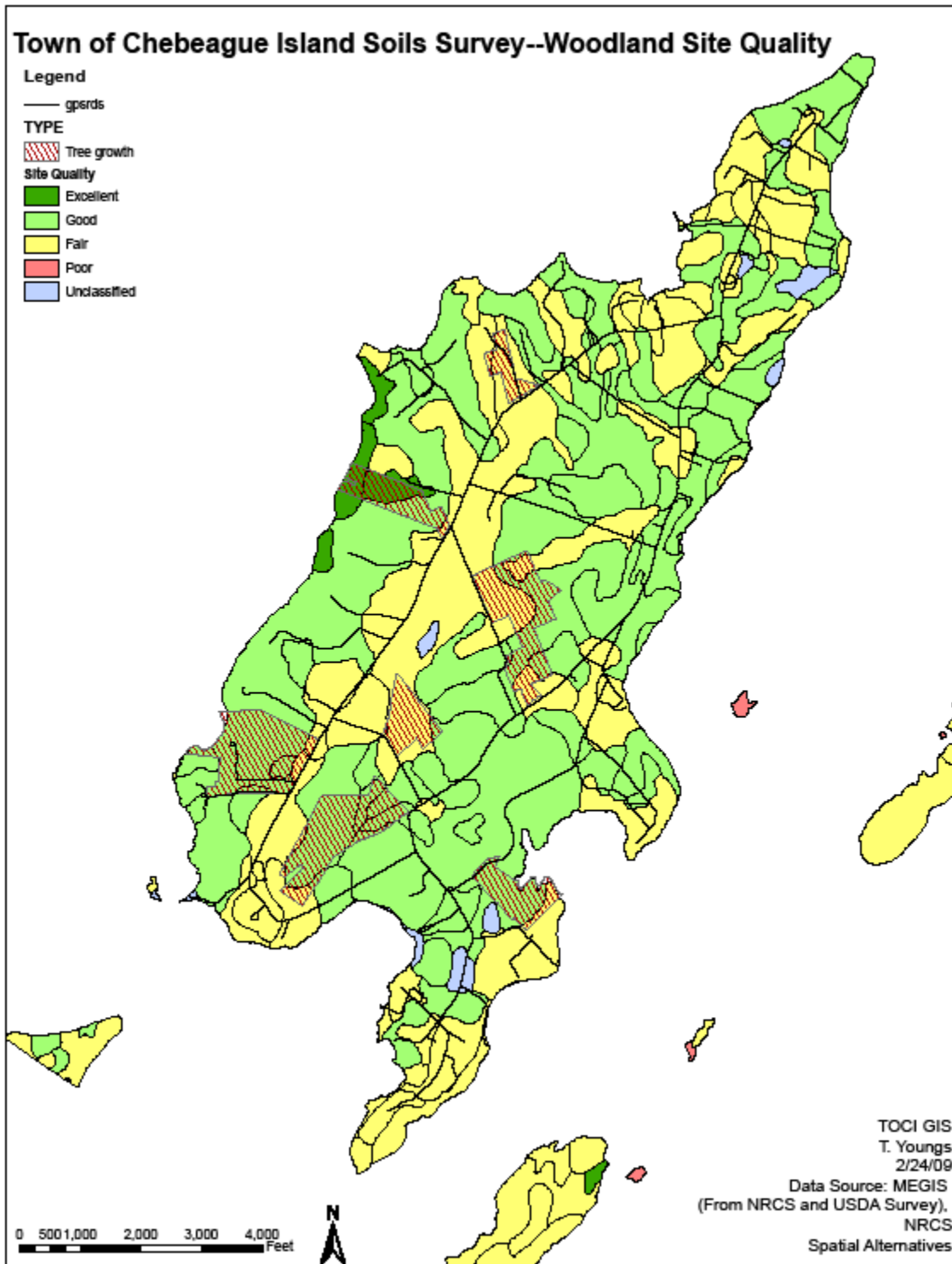
Several open parcels that could be farmed are already in the State's Tree Growth Program or under Land Trust easement. The State does have a Farmland Preservation Program like the Tree Growth one. But participation requires that the farmer make \$5,000 per year. Farming on Chebeague is at such an early stage that no one has used that program yet.

State Tree Growth Program:

Map 4 shows land suitable for farming as well as land that is in the State's Tree Growth Program. This land is somewhat protected from development because it is taxed at its commercial value as forest land, rather than at its higher value for house lots. Land can be taken out of Tree Growth as long as the landowner pays the state the taxes that were forgone while it was in the program. Of seven parcels covering 171 acres in 2000, one, of 14 acres had been taken out by 2008. Access to Tree Growth land is at the pleasure of the owner.

The Town of Chebeague Island has no land that is "poor" for growing trees, other than some of the small outer islands. In addition, much of the land is covered with trees. So it is not surprising that many of the parcels in the Tree Growth Program are excellent or good for growing trees. Much more land is suitable and has trees already, if lots meet the ten acre minimum size requirement and owners are interested.

Map 4



State Open space Program: Two parcels, of 18 and .9 acres, are in this program. The tax benefit to the owner increases as public access to the land and the permanence of its protection increase. If landowners are interested in reducing their taxes by allowing access, this program could be used more.

Town-owned land: The town owns land for a variety of reasons: land that is taken for non-payment of taxes, land that is used for Town functions such as the Firehouse/Town Office, the Cemetery, the School/playground and ballfield, the Transfer Station and the Town Garage.

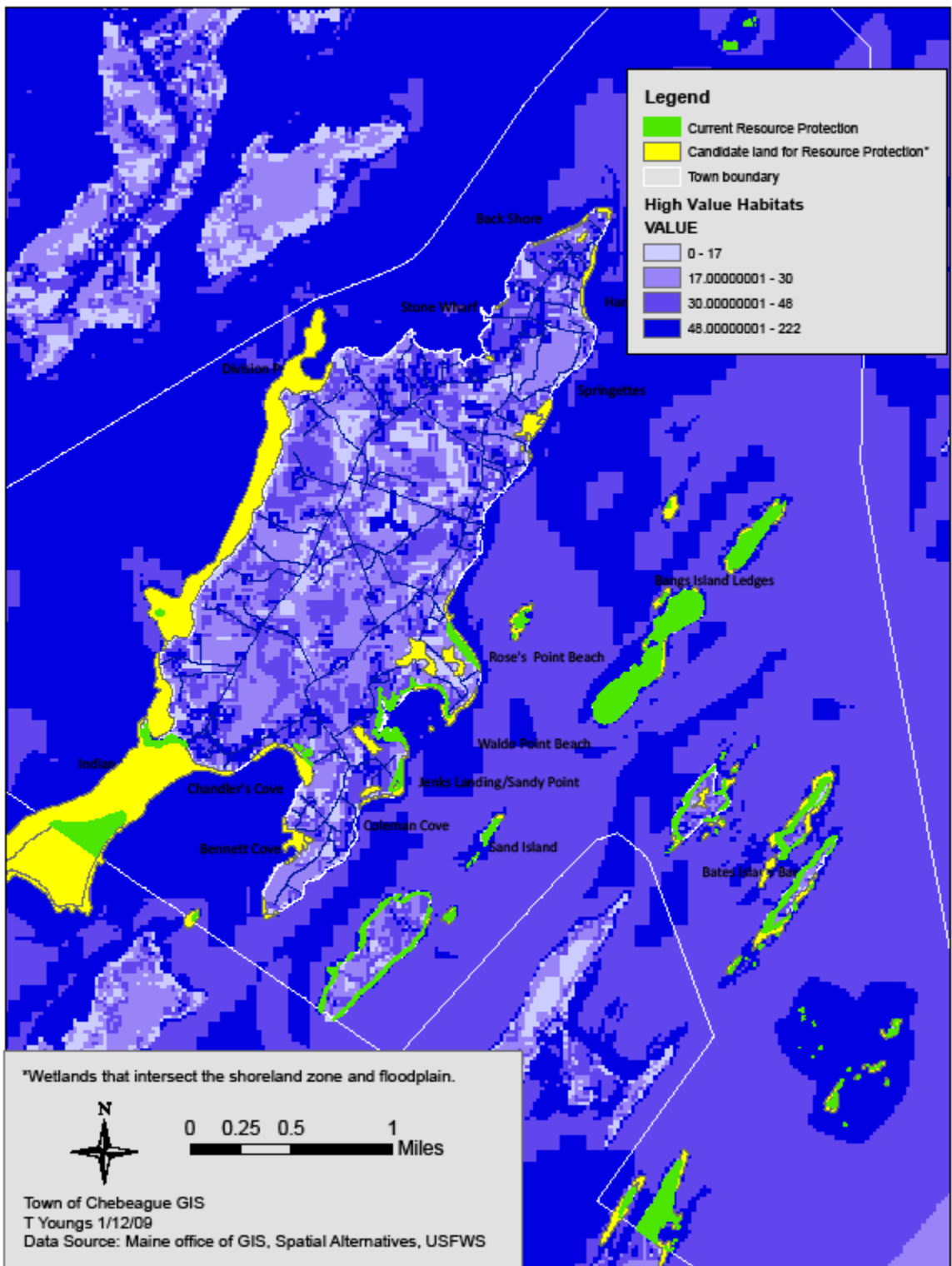
The Town also owns land specifically to be used as public open space such as Chandler's Cove Field and Beach and other rights of way to the shore. Land owned by the Town can be sold after an evaluation of its usefulness to the Town, and the proposed use. This requires a vote in Town Meeting.

Land owned by the State of Maine: The State owns several of the outer islands. Like Town land, they might possibly be sold, but there is no indication that this will happen. Bird and seal habitats on all the islands are somewhat protected by being in the Shoreland Zone. But as Map 1 shows, state ownership of Bangs and Jewell provide more substantial protection, as does Land Trust ownership of Stockman.

The Golf Course and Tennis Courts: These have belonged to their respective clubs and have been used for recreation by members and the paying public for many years. There is no reason to expect a change in this status, but if either club found itself in financial trouble, the land is their primary asset and could be sold. In some other communities, land used for golf courses has become so valuable for housing that it is sold and subdivided and the community finds that it has lost a large area of open space that everyone took for granted. Protecting the future of this land may be something the Town or the Land Trust might consider.

Land zoned as Resource Protection in the Shoreland Zone: The shoreland zone is governed by state law and the land zoned for RP meets criteria defined in the state law. Map5 which is discussed in more detail in the section on Critical Natural Resources indicates that there are coastal wetlands, shown in yellow, that meet the criteria but that are not in Resource Protection. The State also expects hazardous bluffs and steep slopes to be placed in Resource Protection if they are substantially undeveloped.

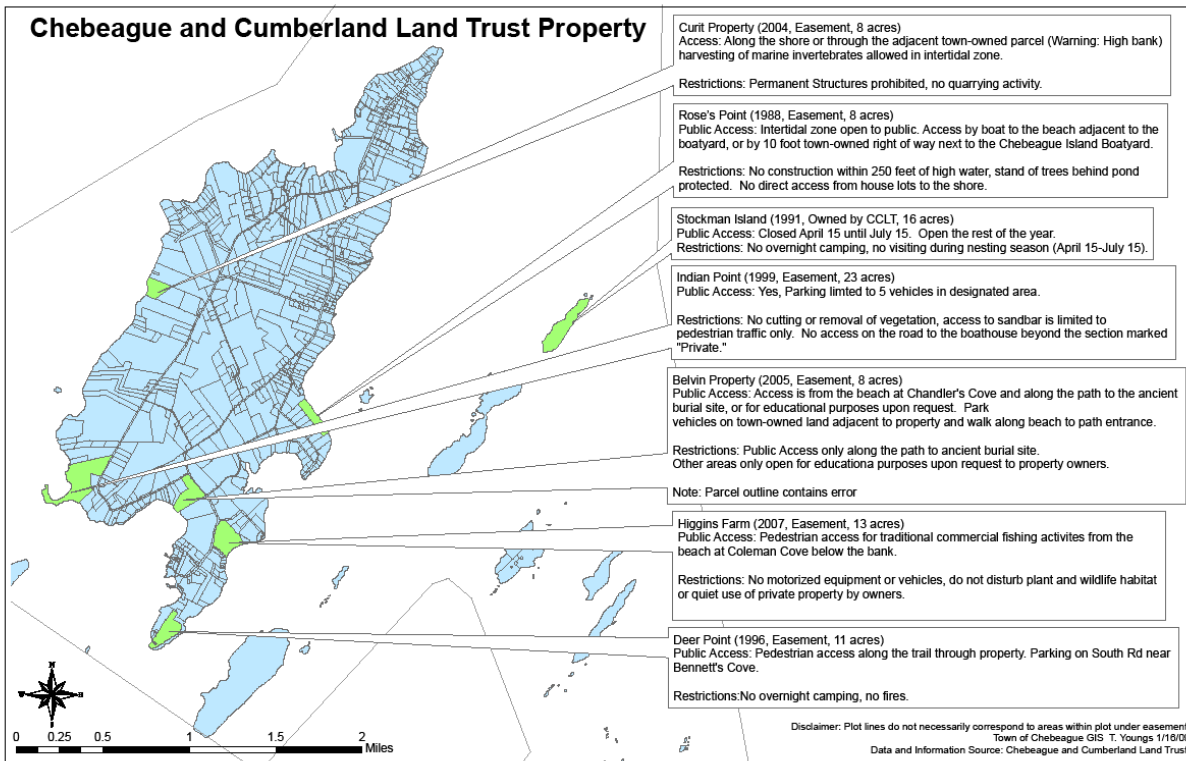
Map 5: Coastal Wetlands in Resource Protection and not in Resource Protection



Land under Conservation Easement to the Chebeague and Cumberland Land Trust: Each conservation easement is a specific, voluntary, legal agreement between the land owner and the Land Trust. They require that the land be kept open in perpetuity. However, easements do not necessarily provide for access or use by the public.

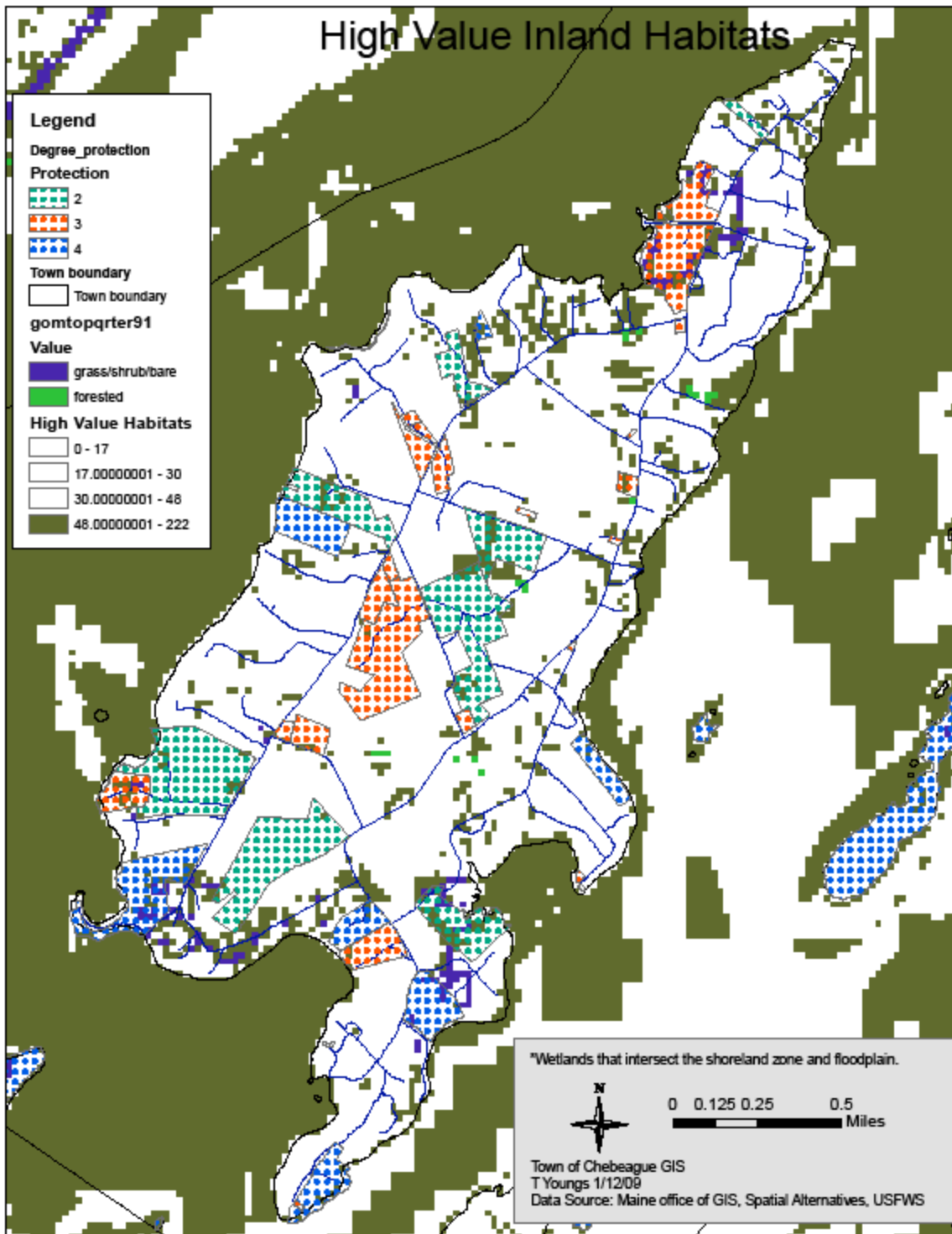
The land Trust has properly focused on preserving beautiful and largely undeveloped land along the shore especially fairly large parcels. However, it is interested in shore access of any size, and might be encouraged to move beyond shore parcels.

Map 6



This list shows that much of the protected land is used primarily for recreation, probably the first thing many people think of when they think about open space. Sizeable parcels are designated for timber harvesting in the State Tree Growth Program and much smaller areas are or could be used for agriculture.

Aquifer recharge, cleansing of runoff and animal habitat have less visibility as reasons for protecting open space. The possibility of protecting more coastal wetlands, as well as bluffs and steep slopes have already been discussed in relation to the Resource Protection requirements of the Shoreland Zoning law. However, Chebeague's current Zoning Ordinance has no zoning category for Resource Protection outside of the shoreland zone. Zoning is probably not the best



Map 7: A Way of Thinking about Protection of Open Space: Inland Habitats of High Environmental Value Compared With Protected Lands

Map 7 of high value inland habitats begins to suggest areas that might be considered for protection. There are two variables for looking at value. One (in army green) designates all land that is of high value for bird and animal habitat according to the U.S. Fish and Wildlife Service. The other separates high value “open” habitats – fields and shrub-lands in dark blue – from high value forested habitat in bright green. The two variables tend to coincide where there are wetlands and boundaries between forested and open land. These latter “edge” habitats are favored by many animals. The map also indicates that some of this high value land is under some form of protection already – State Tree Growth or Open Space, or conservation easements. The issue here is, as with other kinds of open space, what lands should have the highest priority for protection and how might that be accomplished.

Issues

- What land should be kept as open space in the future?
- How should it be so defined? By public ownership, by Land Trust easements, by the owner who uses it for a purpose that keeps it in open space?
- Are there priorities concerning what land should be kept formally and perpetually in open space?
- How should these decisions be made?

Housing Inventory

Most of the Town of Chebeague Island's buildings are houses. The Land Use Inventory has already described them and how they are used not only as homes but also as places of business.

This inventory describes their use as residences. It describes the dynamics of the housing market, the balance between year-round and seasonal housing and what the projected market demand for future housing may be. It also explores whether the housing is affordable to island people, what the fit is between the housing that exists on the island and the people who need housing, and issues related to the condition of the housing.

The central issues here are that new, younger year-round residents find the housing on Chebeague too expensive. In addition, there is very little housing to encourage young people to "come out and try it". Finally older people face problems with housing maintenance and how to manage as they become frail and less able to live independently.

Dealing with these issues is an element of meeting the State's goal "to encourage and promote affordable, decent housing for all Maine citizens.

Current Housing on Chebeague

The Housing Market

In 2008 Chebeague Island had an estimated 468 dwelling units.⁸ Of these, 170 or somewhat over a third (36 percent) are occupied year-round. There are a few year-round rental houses, but probably well over 90 percent of these year-round homes are owned by their occupants. The other 298 houses on the island are summer houses meaning that they are occupied between one month and 6 months of year. Seven of these summer houses are rented out in the winter to people living on the island in the winter, who then have to find other accommodations in the summer. Two year-round houses are presently under construction but are unsold.

The outer islands have at least six houses. Those on Bates, Ministerial and Stave are summer houses, while Hope Island has several year-round residences.

The percent of the housing stock that is made up of summer houses has declined somewhat from 70 percent in 1957 to 64 percent in 2008.

⁸ There are also two houses nearly complete but unsold. Counting houses in a small place produces more uncertainty than counting in a large one where missing data makes relatively little difference. The 2000 census reported Chebeague Island as having 499 housing units, and a count that same year based on the Town of Cumberland assessment records found 400 housing units. The estimated number of units given in Table 1 for 1988 and 1998 used the 2008 CPC total of 468 dwelling units and then subtracted the number of new units that were added to the tax rolls in each ten-year period.

Chebeague has a diverse population, and for a small town it has a fairly complex housing market. In fact, it has at least two and maybe more, somewhat separate housing markets. One has always been the market for year-round housing which is fairly local and limited. The other is the larger market for summer houses. In both, the demand for housing is significantly shaped by the island's size and lack of connection to the mainland. On one side, the supply of land is quite limited, meaning that substantial demand can significantly bid up the value. On the other side, not everyone wants to live in a place that is only accessible by ferries that run at intervals of two hours or more; and on the outer islands access is far more limited than that. Even summer people or retirees looking for "an escape" may not want that much of an escape; and year-round working residents generally have to have a job on the island, with its small job market, or commute daily to the mainland.

In the past these two factors balanced each other, and the market for year-round housing was largely independent of the summer-house market. Summer houses were just that – basically unfinished inside and uninhabitable in the winter. Year-round houses were more substantial, could be heated, and had adequate water and sanitary facilities to be occupied year-round. Each served a different group. There was land for both and the prices of both were moderate.

Since the 1990s, however, the strong demand for summer houses has, to some extent, driven the one for year-round houses. As a practical matter, it is easier to come to Chebeague on vacation in the summer, and since 'recreators' first began coming to Maine in the 19th century, summer people have built a lot of second homes on Chebeague. These houses are part of a national market for scenic waterfront houses and house sites. Such a national market can produce the Nantucket or Hamptons effect of rich people coming in large numbers and driving up land and housing values for all houses. This is something that islanders fear, though most wealthy people who come to Chebeague come because they have some connection to the island through family or friends, not because it is the "in" place to be seen.

Some additional pressure on land and housing prices has also come in recent years from the number of summer people, and others, who are deciding to retire year-round to Chebeague.

In any case, over the past 20 years Chebeague's property and housing values have risen with the prosperous national market for water-front property. The increase in assessed values on Chebeague between 1998 and 2003 was 67.7 percent. This followed an increase of 67.8 percent for the entire Town of Cumberland between 1990 and 1998. This rise, of course, has created wealth as land and housing values have increased. But for people who simply want an ordinary house that they can afford on a fisherman's earnings or a middle-class retiree's pension, it reduces the supply of affordable housing and creates the problem of constantly increasing property taxes.

The 2000 Chebeague Long-Range Plan identified the price of land and houses as a problem that discourages new, young and working people from living year-round on the island. More recent research on housing also indicates that the lack of small, year-round rental units also makes it difficult for people to "try out" island life or to find a place before they have accumulated the money needed to buy a house, if they can find one they can afford.

Two other housing issues related to older residents also exist in the Town. Some elderly people who own houses do not have the financial resources to maintain them adequately. And some need more care than they can usually get at home, so there is a slowly rising demand for assisted living.

The shape of these issues can all be seen more clearly by looking at the nature of the housing stock relative to the nature of the people who do and may want to live in the Town.

Development of the Housing Stock

How did we come to have the housing stock that exists now? It consists almost entirely of free-standing single family houses, one third owned by year-round residents and two thirds by summer people. In addition there are 6 apartments or duplexes among the year-round stock.

Great Chebeague's oldest houses go back to the 18th century. The ones that remain intact are typically storey and a half, center chimney houses. Other, more modest early houses have been incorporated into larger houses or, occasionally, left as sheds when newer houses were built. Since the 18th century, the island has had periodic building booms and droughts.

The stone sloop years, between 1840 and 1880, brought substantial income and wealth to some islanders. During that time ten or more houses were built each decade. Many of these houses were substantial and elegant, and have survived through the years.

In the 1880s, with the flowering of steamboat service on Casco Bay, the boom in construction of summer houses began. It lasted through the 1920s and even into the 1930s. Between 1890 and 1930, Town records⁹ show that 199 houses were built, of which a substantial number were summer cottages. Maps of island development over time show how the early "rusticators" built many of their houses along the shore – that was what people came to Chebeague in the summer for – the views, the cool breeze and access to the water for sailing and swimming.

Of the 468 houses in the Town, 212 houses were originally built as summer "cottages" or even more primitive "camps" and have always been used only in the summer. Many were built between 1880 and 1930, and based on data from the Chebeague Housing Survey, about 60 percent are only marginally useable in the winter.

After the early 1930s very little housing was added to the stock until the 1970s. During the late 30s and World War II virtually nothing was built except facilities for the Army. After the war, even though the rest of the country was seeing a building boom, the rate of construction on Chebeague was about one house a year. This 40 year gap in housing construction means that the dominant style of houses on Great Chebeague until quite recently has been Greek Revival, Victorian and turn-of-the-century summer cottage. During the 1950s and 60s many of these

⁹ These records are clearly not fully accurate until recent years. The dates of houses were probably added to the property list long after many of the houses were built. And, of course the property list does not cover houses that have been lost to fire or decay, so that these numbers understate the total number of houses that have existed on the islands.

older houses were converted from year-round to summer houses, so that now seventy houses that were originally built as year-round houses are now only used in the summer. Many of these are 19th century Greek Revival or Victorian houses, often on or near the shore.

In the 1970s the rate of growth of both year-round and summer houses began to increase. That decade it rose to about two houses a year, and then to three per year in the 1980s. Between 1988 and 1998, 43 houses were built.

So far in the first decade of the 21st century the rate has again increased to 5.5 though for somewhat idiosyncratic reasons. Chebeague was not immune to the national housing boom of this decade. In addition, the increase can be explained in part by the 12 houses granted building permits in the single year of 2001. This was the result of an effort by the Town of Cumberland to adopt a growth cap for the island based on its historic rate of 3 houses per year. Faced with a yearly cap that might slow down their plans, summer and year-round residents alike who had been thinking of building rushed to get on a waiting list to build 23 houses. In the end the Cumberland Town Council let all applicants who were ready to proceed have building permits. Twelve of the 23 applicants were ready.

All told, as Table 1 shows, between 1998 and 2008 55 houses were built. Thirty nine were summer houses. These recently constructed summer houses are more likely to be fully winterized but “cottages” continue to be built. Of the 16 year-round houses, 7 were built by year-round, working age residents. An additional 8 were built by people retiring to the island after working careers elsewhere.

Among the year-round stock, 124 houses have always been year-round houses. An additional 19 were built as year-round houses, served as summer houses at some point, but are now used year-round again. Since Chebeague has many houses built in the 19th century, many of these “year-round” houses have been significantly upgraded over the years with indoor plumbing and modern wiring, heating and insulation. Much less common are the 21 summer houses that have been winterized and are now occupied year-round.

The conversion of year-round to summer houses and vice versa has been fairly common and has not been a significant issue until recently. Now, however, modest year-round houses that might be affordable are being sold to summer people, particularly if they have a water view.

The houses on all the outer islands except Hope are all summer cottages. Ministerial and Bates each have one, and Stave has seven parcels and two houses. Hope Island belongs to a couple who have been turning it into a gentleman’s farm. All but one of the four dwelling units in existence in 2008 are new, and the older one has been extensively renovated.

In recent years, the strongest trend in Great Chebeague’s housing market has been the demand for summer houses especially on the shore or with shore views. It has tended to raise the value of year-round houses all over the island, placing them out of reach of many buyers. The increase in assessed values and taxes on shorefront houses has led to some additional conversions of year-round to summer houses, as year-round people have moved inland where the taxes are lower. In

some cases demand has been strong enough to begin to produce tear-downs of modest houses on the shore and their replacement by large summer houses.

Now, after about seven years of rapid growth, Great Chebeague is seeing some of the problems in the housing market that are troubling the rest of the country. There have been some mortgage foreclosures among over-extended year-round residents. And during the summer of 2008, 14 houses were for sale with only a few buyers. So far, however, there does not seem to be any significant decline in the asking price for those houses; owners seem to be willing to wait until the housing market recovers.

Finally, while Great Chebeague has a substantial supply of fairly expensive summer rental properties, it has very little rental housing for people who want to live year-round on the island without buying a house. Instead, some year-round residents rent winterized summer houses in the winter and then move in with relatives or friends or live in tents in the woods during the summer.

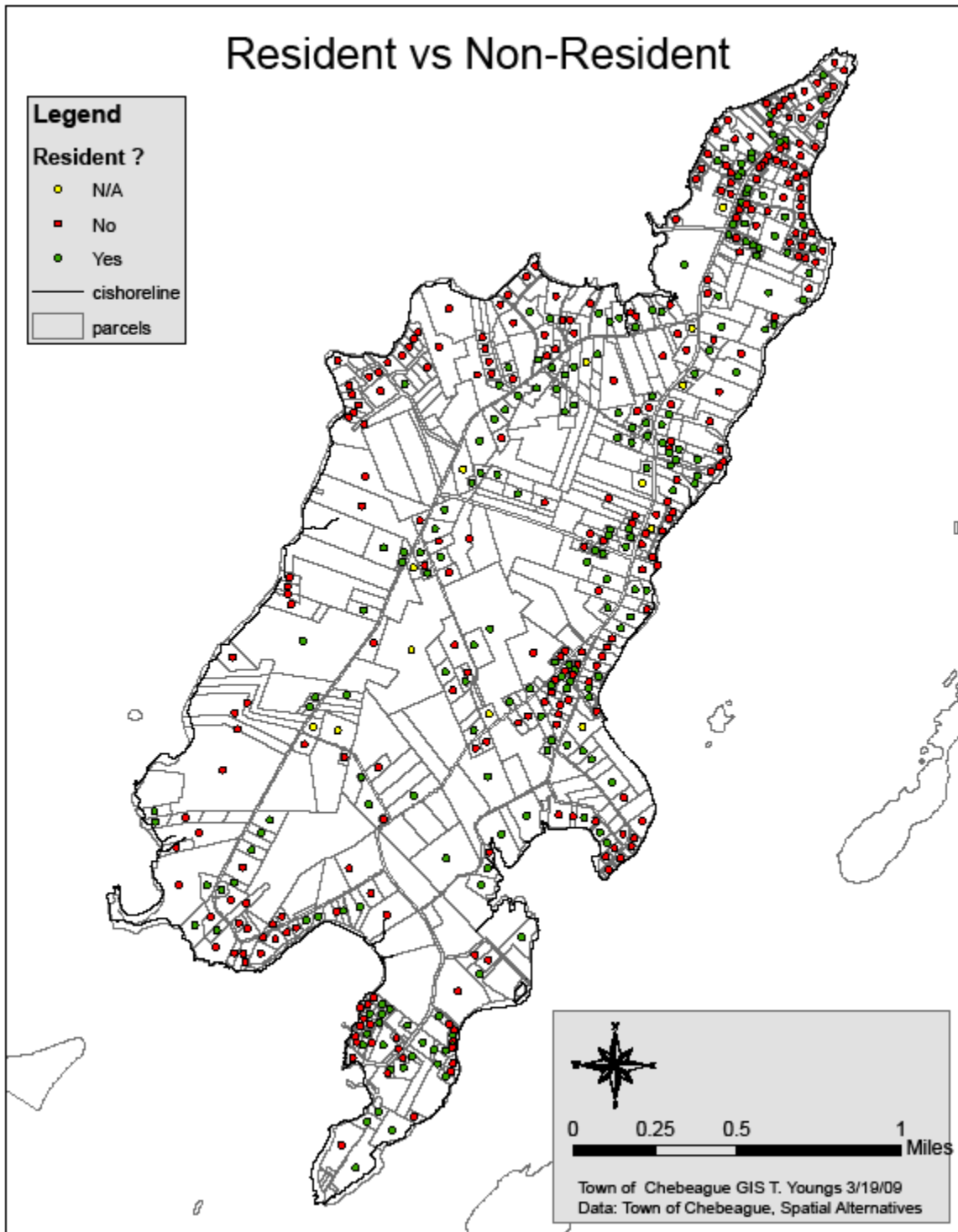
Who Lives Where?

Income has had a much more pronounced effect on where people live on Chebeague in the past 20 to 30 years than it had before. Beginning in the Great Depression and lasting into the 1970s, Chebeague saw relatively little growth and land prices remained fairly low. Since then, however, shore property has been increasingly in demand and is getting increasingly scarce. Eighty four percent of the new houses built in the 1990s were on the shore or had water views. Since 2000 only 44 percent have been. Today 60 percent of all the houses on the island are on the shore or have a view of the water (see Map 1).

The Chebeague Housing Study looked at sales prices for houses between 2001 and 2005. Twelve houses on the ocean were sold, with the average price per square foot rising from \$100 to \$518. The average price per home in 2005 was \$1,220,250. On the other hand, the 41 houses that sold in the interior parts of the island had average prices per square foot rising from \$95 to \$185. The average price per home in 2005 was \$279,000.

This trend means that today 62 percent of year-round working and retired long-time island residents do not live on the shore or in houses with water views. Conversely, 69 percent of summer people do have houses on the water or with water views. People who have moved year-round to Chebeague in retirement are in between; 60 percent have houses on the water or with water views. This latter group either build new retirement houses (15 households), especially on the shore, or move to a year-round to a house that was in their family, sometimes as a summer house (16 households).

Map 1



Housing Stock Projection

Fully 21 percent of all the houses on Great Chebeague and Hope Islands have been built in the 20 years between 1988 and 2008. Will construction of houses continue at this pace? A slow economy has certainly reduced the recent rate of construction. On the other hand, the impending retirement of the baby-boom generation may counter this somewhat, as some long-time summer residents may have been preparing for some time to retire year-round to Chebeague.

The projection of growth in Chebeague’s housing stock discussed in detail the Land Use Inventory is shown in Table 1.

Table 1: Projection of Number of Housing Units on Chebeague Island

Type Unit	1957	1988	1998	2008	20 year average	2018
Year Round Houses	96	133	148	164	1.55/yr	181-190
Other Yr rd	?	4	6	6	.10/yr	10
Summer	224	233	259	298	3.25/yr	330
Total	320	370	413	468	4.9/yr	521-530

This increase of anywhere between a low of 35 houses or highs between 53 and 62 houses over the next ten years is what market demand might produce. This would accommodate projected population growth, assuming that the composition of the population remains as it is. In general, Chebeaguers, summer and year-round, are not enthusiastic about increased development. The most common concern on the survey for the 2000 Long Range Plan, mentioned spontaneously by 232 of 537 respondents, year-round and summer alike, was “growth and development”. But islanders generally accept the idea that new generations of existing families, whether year-round or summer, should be able to live on the island.

If the construction patterns remain the same as they have been in the first half of the 2000 decade, then the new houses would probably be like those built in recent years – all owner-occupied, large summer houses, houses for retirees “from away”, fairly large speculative houses not on the shore and a few modest houses for year-round working families. Apartments, duplexes or year-round rental units are not very likely.

Year-Round Residents and their Housing Needs

Match Between Housing Units and Households

Chebeague’s year-round housing stock was largely built for families with children (and in some cases, families with summer boarders). Now almost 80 percent of year-round households have no children. Expectations about housing size have grown a lot, so what may have been a house that held 6-8 people in 1880 or 4 in 1955 might now be considered suitable for a couple and, maybe, a single child.

As Table 2 shows, the average household size has gradually gotten smaller, dropping from 2.15 in 1998 to 1.98 in 2008. And the number of one and two person households is striking.

Table 2: Household Size

Household Size	1990	2000	2008
1	62	59	65
2	69	69	74
3	0	15	11
4	29	21	18
5	0	6	3
6	0	0	0
7	0	0	1
Total Households	147	170	172
Average HH Size	2.15	2.09	1.98

Elderly people make up a large proportion of these small households. They have secure housing. In 2000, of the 128 one or two person households, 65 households (38 percent of all households) were headed by someone 65 years or older, and an additional 19 percent by someone 55 to 64 years old. There were four men and 24 women over the age of 65 living alone. Among these households headed by someone 65 or older, 89 percent owned their own homes, so their housing was quite secure in this sense. In 2008 the proportion of one or two-person households is now 81 percent. However, the CPC population survey could not gather detailed information on age.

If given a choice between staying in their familiar family house and moving to a smaller housing unit, most would choose to stay where they are. Even so, at least some of today’s small households have more “house” than they can deal with, so housing maintenance is an issue for some.

As the elderly get frail and need increasing help to remain at home, some can be helped by family members who live on the island. But otherwise it is difficult to get home-care providers to come regularly to the island. Chebeague does have a 7 person assisted living facility, the Island Commons, and when older people, whatever their incomes, do reach the point where they cannot live in independently any more, they can often stay on the island by going to the Commons, which has established a reputation as a comfortable and caring place. When Chebeaguers need more care than can be provided by assisted living, they must go to a nursing home on the mainland.

With the baby boom beginning to retire, and the likelihood that some summer people will retire to the island year-round, the need for additional assisted living care seems certain. The 48 people on the island who were ages 65 to 74 in 2000 are already ages 73 to 82, while the 33 who were 75 to 84 are already 83 to 92. The two largest single age groups in the Chebeague population in 2000 – 30 people each will be in their 70s by 2018 and they will be joined by other retiring baby boomers.

The other group of people in these small households are young people who often do not have secure housing because the housing they need essentially does not exist on Chebeague. The 2000 census reported four residents between the ages of 20 and 24 and a further 12 from 25 to 29 years old. Most (about 75 percent) of the young single people and couples who live year-round on the island are renters. A few have small apartments in houses. A very few rent houses that they can stay in year-round. More live in “summer” houses during the winter and have to find some other accommodations in the summer. One hears stories of kids living in the woods in a tent. So at least some of these people have less housing than they need.

Income and Housing Costs

Chebeague’s year-round population has relatively low incomes. If most residents didn’t already own their own homes, often with no mortgage, they would not be able to buy into the present housing market. This is exactly the issue faced by young people wanting to establish themselves on the island.

The 2000 Census found that Chebeague’s year-round median household income was \$32,188. Married couples did the best, at \$51,172. Female headed households had \$41,719, while non-family households had a median income of only \$21,250. In the 2005 housing survey the median non-elderly household income was \$52,500 for a family of 3. The median for people over 65, however, was only \$26,250. Putting the two groups together gives an overall median income of \$42,500. The 2000 Census also found 8 men between the ages of 18 and 24 living below the poverty line.

No “typical” household on Chebeague could afford to buy a house on the Island. In 2006 the median home price in Cumberland County was \$238,250 which would have required the owner to have an income of at least \$78,225 though the median county income was only \$53,255. The disparity between income and housing price was even greater on Great Chebeague. In 2005 the median price for a non-waterfront house was \$279,000, higher than the county as a whole, while median income, at \$32,188, was considerably lower than the County median. On Chebeague, to be “affordable” (one third of a family’s income spent on housing) a house could not cost more than \$123,000 to \$211,000 depending on family size.

Moreover, a detailed example suggests that the cost of building houses on Chebeague has increased faster than middle class incomes. In 1976 an SAD 51 teacher could buy a one acre parcel for \$4,000 and build a modest house for \$25,200. A 30 year mortgage for the house, at 8.75% interest would have cost \$272 per month. On a yearly basis the teacher would have paid about 27 percent of their income for the house, not including other housing related expenses such as property taxes, insurance or heat.

In 2010, however the lot would now have to be 1.5 acres and would cost \$65,500, while the house would cost \$153,500 to build. A 30 year mortgage at an interest rate of only 4.75% would cost \$1462 per month, so that the teacher would be paying 39 percent of their income for the basic house, not including other housing-related expenses.

In sum, the teacher's salary would have increased 372 percent over this 34 year period while the cost of building the house would have increased 750 percent.

Luckily, in 2000 73 percent of Chebeague's existing homeowners had no mortgage at all. Even so because of low incomes especially among the elderly, 40 percent still pay more than 30 percent of their incomes for housing. This means that at least some owners, many of them elderly, do not have sufficient funds to maintain their houses.

Younger people are more likely to rent housing. A monthly rental at 50 to 60 percent of the median family income would be between \$375 and \$450 including utilities. This is lower than the \$650-\$800 per month rent that the winter rentals of summer houses go for, though it some smaller houses and apartments may have rents this low. In any case, finding this housing is not easy. It requires local knowledge and often a willingness to move in the summer, all of which may deter other young people from trying island life. So some live with family, share with friends or live in tiny apartments or in a few substandard houses. And, as the CICA Housing Committee is learning, do not want to be identified as requiring financial help.

Since Chebeague needs to attract young families to keep its year-round economy going and to maintain its elementary school, the lack of inexpensive, year-round "starter" apartments and rental houses is a significant problem. The total number of these units need not be large. The Chebeague Housing Study found that four respondents indicated an interest in affordable rental housing over the next five years (in 2005) and an additional seven indicated an interest in the somewhat longer term.

The State's goal for providing affordable housing is to have 10 percent of all new, year-round housing be affordable. For Chebeague this would mean that over the next ten years somewhere between two and three housing units would need to be either affordable rentals or houses selling for less than \$200,000.

Condition of Housing

Generally year-round housing on Great Chebeague is adequate for year-round occupancy. In the Housing Survey 96 percent of year-round residents said their plumbing was adequate for winter and 98 percent indicated that the heating system was adequate. Only 85 percent said that their house was adequately insulated, and this is an area where Town or non-profit work is needed.

Among summer houses, about 40 percent could probably be lived in in the winter, based on the adequacy of the heating and plumbing. This suggests that there might be more opportunity for more winter rentals of summer houses than are currently available. However, the issue remains of where would these renters go in the summer when the rental market gets much more expensive and owners come to use their houses themselves.

In general, the condition of houses on the island is good. There are a few notably dilapidated houses and two that are cases of "demolition by neglect." Almost a quarter of respondents on the housing survey said that they need roof repairs and 16 percent needed some foundation or structural work.

Nine and seven percent said they needed septic system or plumbing repairs. While there may now be no houses on the island that have outdoor privies, many septic systems are old and probably marginal. A new septic system is a major expenditure for a homeowner.

Home maintenance is a particularly difficult issue for the elderly who often have small incomes. The Island Commons has explored somewhat whether it would be possible to work with PROP to have a low interest loan and grant home repair program on Chebeague. However, the response was not encouraging since elders in such a small community do not want to be identified as needing financial assistance.

Affordable Housing Work to Date

Work on meeting the unmet housing needs of Chebeaguers had taken place on two different fronts. The Island Commons not only provides assisted living itself, but the Island Commons Resource Center works to provide a broader range services to older people on the island. The Commons explored PROP housing maintenance

The Chebeague Island Community Association (CICA) Housing Committee has been working since 2006 to meet the housing needs of younger individuals, couples and families, assuming the work done since 2002 by the Cumberland Islands Committee. In 2004 a community development class from the University of Southern Maine's Muskie School prepared a preliminary study on the need for and various ways of providing affordable housing on the island. This study formed the basis for an application to the CDBG Program for a planning grant to study the demand for such housing in more detail. This study, Mayberry and Hemminger, *Chebeague Housing Study: Final Report*, was completed in December 2005, and laid out a five-year strategy for providing 12 affordable housing units for rent and sale.

CICA's initial "pilot" project was to purchase a three-bedroom house with assistance from the Genesis Fund, the Island Institute and donors on Chebeague. Renting this as an affordable house has worked well, but the group has learned that the number of people on the island needing affordable housing at any given time is small and that a variety of other kinds of affordable housing options such as small rental units or lots available for people to build their own houses, are needed in addition to rental houses.

CICA is continuing to explore what is needed and to develop additional projects. Since subsidies are required to "write down" the cost of housing acquired or built at market rates, this is a slow process. The availability of land donated by the Town or by residents makes this more possible. A revision of the Town's land use regulations to encourage the construction of affordable housing would also.

Land Use Regulations Related to Affordable Housing

The land use ordinances that Chebeague adopted when it became a town in July 2007 were the same as the ordinances it had operated under as part of the Town of Cumberland. The only change made was to delete language, such as wording about zoning districts, that related only to mainland Cumberland.

A major purpose of this Comprehensive Plan is to provide guidance for developing amendments or perhaps entirely new ordinances that are more suited to the Town of Chebeague Island.

One of the areas that needs revision is the various provisions that relate to affordable housing. Cumberland's Zoning Ordinance had a number of useful provisions to encourage the provision of affordable housing and these have been retained. But generally the scale of the development envisioned in the Cumberland ordinances is larger than is characteristic on Chebeague.

Provisions in the Zoning Ordinance that might be kept but revised are:

Section 406.2: Clustered Residential Development. This now requires a minimum lot size for a single family house of 60,000 square feet (1.37 ac.) and for a duplex, 80,000 square feet (1.83 ac.) assuming that the units are served by private wells and septic systems since there is no public water or sewer on Chebeague. The size of lots and the various requirements need to be reviewed.

Section 406.7 Affordable Housing Developments. This allows a minimum lot size of 10,000 for a single family house on a well and septic system. Setbacks are smaller. Again the lot size needs to be reviewed and more explicit wording added about wells and septic systems.

Section 407: Multiplex Dwellings. This section covers the conversion of single family or duplex dwellings to multiplex dwellings.

Section 408.1: Accessory Apartments. The unit added shall not include more than one bedroom and shall not exceed 40 percent of the total living area of the building. These requirements need to be reviewed.

Section 408.2: Manor Houses. This covers the conversion of a large single family house into a multi-family structure. Again, requirements need to be reviewed.

Section 417: Manufactured Housing. This section follows state law. Manufactured housing is presently allowed in all Chebeague zones. It is a cost-effective way of providing new housing and is encouraged on the island.

Section 418: Mobile Home Parks: This section needs to be reviewed – it may be more elaborate than Chebeague requires.

Issues

What kind of affordable/year-round housing do possible candidates – young single people, families, the elderly – need and want?

What does the broader community consider acceptable for affordable housing?

Is there a willingness to accept limits on the appreciation in value of affordable houses to keep them affordable over time?

What mechanisms – zoning, financing, construction -- would help to keep down or reduce the price of housing to year-round residents?

Inventory of Historical and Archaeological Resources

Historic patterns of European settlement are very evident on Great Chebeague. Stone walls weave back and forth across through the island's second and third growth woods, showing evidence of the island's agricultural heritage. Hamlets of Greek Revival and Victorian houses, and shingle-style summer colonies are still largely intact. Some of the evidence of Native American settlement, large coastal shell middens, is gradually being washed away by the waters of Casco Bay. Other remnants such as burial mounds, firepits and other evidence of Native American settlements are buried underneath lawns and woodlands.

The appearance of the current development on Great Chebeague, both for year-round and summer houses, is still set by architectural scale and styles of the 19th and early 20th centuries. The many buildings surviving from this time have been used and reused for houses and businesses. By now there seems to be a general, if largely unarticulated, commitment to preserve this historic appearance. However, some of the changes wrought by the development of the past 20 years and its continuation into the future may challenge this uninstitutionalized consensus.

Historical Development Patterns

In the 19th century, settlements on Chebeague were often based on kinship, with successive generations of children building on their parents' land. As a result, many older island homes are clustered in some of the neighborhoods described in the Land Use Inventory. Much of the rest of the island was farmed. Fishermen and mariners, however, had less need for extensive farmland, and areas such as the East End, Coleman Cove and the West End developed into denser settlements.

Then during the late 19th and early 20th centuries, tourists arrived on the island, and created a development boom. Nearly 200 summer cottages were built between 1884 and 1930. Individual cottages were built in nearly every neighborhood on the island. Farmland became subdivisions of summer cottages. The highest concentration of cottages is found on the East End. Many subdivisions were clustered near the shore, creating summer enclaves such as the Massachusetts Colony and Cottage Road. Some, such as Sunset Landing hardly developed at all, and have now disappeared except for their paper streets in the Town records. Others, such as the Webber and Soule subdivisions, which created a summer neighborhood on the south side of the East End, have remained relatively stable for many years. This boom lasted through the 1920s.

Meanwhile some old farmhouses and many old barns became cellar holes full of the rambling roses and day lilies that had once grown nearby. What once were open fields, shown in the many photographs of the period, grew up into brush and then woods.

When the Great Depression hit, development on Chebeague largely stopped. Some residents who had moved away to take advantage of economic opportunities on the mainland, moved back to a place where they could still have a vegetable garden even if they did not farm on any larger scale.

There was also little civilian development during World War II, though military barracks were built at the East End, at Deer Point, Bar Point and on Schoolhouse Road for the troops who maintained Casco Bay's coastal defenses. These consisted of an anti-submarine net that was strung between the islands of Casco Bay closest to the shore to prevent submarines from entering the deep-water anchorage for warships between Portland and Cousins Island. Nets on Chebeague extended along the Great Bar to a gate at Littlejohn Island and from Deer Point to Crow Island.

The total number of houses built between 1932 and 1945 was only 18.

After the War, despite the post-war boom in the rest of the country, Chebeague, like other Maine islands, experienced an outmigration of its young. The majority of the island's nearly 50 veterans relocated to the mainland. Again, there was little construction – about one house per year from 1945 to 1970.

The result of this historical pattern was that when building began to pick up again in the 1980s, only about 13 percent of the housing stock had been built since 1932.

History of Residential Architectural Character

Because of this pattern of boom and bust housing development, the dominant architectural style of buildings built as year-round houses on Chebeague, even now after 30 years of steady new construction, is the Greek Revival style of the mid to late 19th century. This can be seen in Table 1 where the three periods of Greek Revival building made up fully 30 percent of all the houses older than 1950.

There is not one dominant style of summer houses since summer houses built between 1880 and 1932 by island builders often get classified simply as “vernacular”. The “shingle style” look is fairly common if small cottages with shingle exteriors are included. Bungalows are as well.

Table 1 is based on a survey of historic (older than 50 years in 2000) properties on Chebeague. It used the Maine Historic Preservation Commission's Historic Building/Structure Survey Form. The survey was done in 2000 and paid for by the Town of Cumberland. The surveyor was taken around the island by Donna Damon, the island's most knowledgeable historian. But the results were ultimately disappointing because, although much of the structural detail of the exterior was recorded, the historical data which would give more life to the structural description was never provided by the surveyor. It serves only as a bare description of each building with a sometimes inaccurate date of construction.

Table 1 uses this data. It gives an overall feel for the nature of Great Chebeague's architectural character – the types and numbers of buildings that survived to 2000. But the data should not be taken as fully accurate or the last word on historical buildings on the island.

As the Land Use Inventory indicated, most of the buildings on Chebeague now are houses, so this section on architectural character focuses largely on them. But the island and the Town have additional historic resources, not all of them buildings. These are discussed in the next section.

During the mid 19th century Chebeague's economy diversified as many islanders entered into the rock slooping business. As marine contractors the Chebeaguers blasted the shores of Casco Bay, gathering the rubble to be used as the base of the wharves, breakwaters and lighthouses that they built from Eastport to St. Augustine Florida. The evidence of this rock slooping can be found along the shores of nearly all the Town's islands. Instead of gradual outcroppings extending into the sea, high cliffs rise up from the ocean. Drill marks can still be found on the South side of Deer Point and on the outer side of Bangs Island.

In addition, the rock sloopers carried granite and other finished building stone from Cape Ann and Penobscot Bay to east coast rail heads. The stone wharves and granite foundations of many of the houses built at this time on Chebeague remind current residents of this history.

The island's economy was further strengthened when island entrepreneurs established the Ross and Hamilton store and the Hamilton Oil Works.

With the money they made hauling granite, the stone sloopers commissioned Greek Revival houses, built by Isaac Strout and others. Of these, 26 remain – 1 ½ story, often with an el, with multiple chimneys for stoves, typically white, with roofs and door entablatures “supported” by Doric pilasters at the corners. While these houses can be found in all sections of the island, the highest concentration is found on the East End. This reflects the kinship patterns among the sloopers, as well as the involvement of the residents in marine construction.

As the rest of the country moved on into Victorian house styles such as gothic and mansard, Chebeaguers adapted their Greek Revival style to Italianate and Queen Anne versions. Sometimes the roof pitch was steeper, often there were more gables as well as bay windows. Victorian jigsaw trim was added to new-style porches and stoops. Of these houses, built between about 1870 and even as late as 1910, 37 have survived.

Altogether, this means that of the approximately 227 houses older than 60 years now, about 30 percent are somewhat Greek Revival in style.

An additional 20 houses remain from the period before 1850. A few go back to the early Federal period before 1800. The rest of these Federal-style houses date from 1800 to 1845. These are houses not unlike their Greek Revival successors in scale – 1 ½ stories, but with center chimneys and no exterior decoration except for the William Littlefield house which has a fan over the front door.

The last two decades of the 19th century brought the new building boom that came with the arrival of the summer visitors. Here the styles often differed from the Greek Revival. Initially, year-round residents took in summer boarders, and some built larger, often two story houses in the Mansard, Queen Anne, stick and four-square styles.

By 1900, however, many summer visitors wanted to stay in houses of their own, producing a steady business in the construction of summer cottages. Most were “vernacular” cottages or “bungalows. But there are several good examples of shingle-style architecture, including one

Table 1: Numbers of Historic Houses on Great Chebeague

Period/Style total	Estimated Dates	Number of Houses	Percent of total
Early Federal	Before 1800	4	1.7 percent
Later Federal	1800 - 1850	16	7.0 percent
Greek Revival	1850 - 1870	26	11.4 percent
Victorian Greek Revival	1870 - 1910	37	16.3 percent
Victorian, other	1870 – 1890	16	7.0 percent
Late 19 th Century	1880 – 1930		
Shingle		13	5.7
Four Square		17	7.4
Queen Anne		5	2.2
Stick		3	1.3
Dutch Colonial		9	4.0
Bungalow		27	11.9
Vernacular, year- round	All periods	13	5.7
Vernacular summer cottage	All periods	36	15.8
Greek Revival revival	1910 - 1950	5	2.2
Total		227	100 percent

built by architect Antoine Dorticos for himself. The feel of these summer neighborhoods can be seen along Cottage Road. Dorticos' house is located on a hill overlooking Chandler's Cove and Long Island, with Portland in the distance. It is surrounded by other cottages in a variety of different styles including two others of his own design, and several by other architects, ranged along the bluff that overlooks Chandler's Cove. The two Federal houses that belonged to two of the farms that were subdivided to create this summer neighborhood also look out over the splendid view. A third is gone. Along the road beyond them is the large, rustic Adirondack-style house, designed by a Philadelphia architect, that was the center of a model farm created by a wealthy summer family at the turn of the 20th century.

Adaptive reuse has been the norm for both year-round and summer houses. Some have switched from year-round use to summer and vice versa. Some very old houses have become a section of a house made larger by an addition in a later style and many later houses have added els.

Modernization in the form of electricity, running water, bathrooms, heating systems and modern kitchens have often changed the interiors significantly.

But not all old houses survived. Cellar holes for both houses and, especially barns can still be found in the woods.

Historic Resources Other than Houses


The houses are what most people think of when they think of historical resources, in part because many remain. But there are many other physical remnants of Chebeague's history, though many of them have been allowed to decay and disappear – public buildings including schools and churches, cemeteries, summer hotels, wharves, factories, stores, barns, fishing infrastructure and even military structures. Of the historic items listed in the Maine Historic Preservation Commission's Data Inventory for Chebeague are two wrecks from 1880 and 1870 and the military defenses at the East End.

Long before Europeans came to Chebeague, the Abenaki Indians used the islands in the summer because of their rich resources. Some Indians still came to camp on Great Chebeague in the summer as late as 1950. The primary evidence of their occupation is large shell mounds along the shore (Map 1) of Great and Little Chebeague and Bates Island. The shell middens have been surveyed by the Maine Historic Preservation Commission, but only one on Bates Island has been excavated. Fifty two sites were surveyed, 20 of which were eroded or damaged so badly that were judged to be no longer significant. The others may be significant. Some artifacts have been found during island construction projects and after big storms.

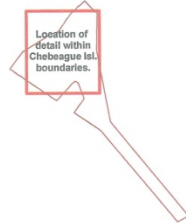
Great Chebeague has a number of public buildings that are of historic interest. The most distinctive is the United Methodist Church, built in the Greek Revival style in 1855, with a belfry designed by Antoine Dorticos, added in 1902. The evangelical movements of the early 19th century led to the creation of competing Baptist, Methodist Episcopal and Methodist Protestant churches all located in the center of the island. Over the years, several two of these churches became inactive and their buildings became houses. The Baptist church is the only brick building on the island. A Pentecostal Nazarene Mission chapel was also built in 1907. Of all these churches, the present Methodist Church is the only one remaining. The original Federal parsonage, which predated the church and is still lived in, was replaced by a new parsonage in the Victorian Greek Revival style in 1886. A Parish House was built next to the parsonage in 1939.

There are three former schools on the island as well as the current school built in 1953. The West End School (1896), now used as a summer house, the Central School (1910) used for the high school and then converted into the Grange, and the District 9 Schoolhouse (1871). When the District 10 School closed, it was converted into the Town Garage. Then, when a new Town Garage was built in 1998 the Town of Cumberland conveyed it to the Chebeague Island Historical Society to be used as the Museum of Chebeague History. The school room, complete with its old written-on blackboards became the exhibition space, and the town garage addition was renovated as storage space for the collections.

**Areas Sensitive for Prehistoric Archaeology* in
Chebeague Island
information provided by
Maine Historic Preservation Commission
February 2008**

 Areas sensitive for prehistoric archaeology

*dated material subject to future revision
map 1/1



The United Order of the Knights of the Golden Cross built a two-story meeting hall in 1899 . In 1902 it was used for the island high school, which moved to a new High School on South Road in 1910. The hall burned in about 1927 and a new one was built in 1928 for public meetings, theatricals, concerts, community suppers and parties, the Ladies Aid Fair and many other community activities. When the decision was made to build an island library, an island family donated land adjacent to the Hall and the library was added as a wing to the Hall, with the Health Clinic in between.

The summer home of the Female Orphan Asylum was located on Chebeague in 1896. The building has been greatly changed over the years. It began as a three-story building but the bottom floor was removed.

Today Great Chebeague has a single active cemetery next to the Methodist church. It is one of the documents of the Island's history. But it has not been the only cemetery. At least three others exist, one on the grounds of the Golf Course, one on the Ballard estate and a third, recently refurbished and protected by a conservation easement, off of Chandler's Cove Beach.

There is also a World War I monument in front of the Grange.

Few commercial buildings remain from earlier times, though the tiny cobbler shop from the 1880s is a remaining example.

There were over thirty boarding houses and hotels on the island in the 19th Century. Of the largest ones (Hamilton Hotel, Hill Crest Hotel, Summit House, Sunnyside House) only one, the Hill Crest, now named the Chebeague Inn and recently refurbished without changing its basic character as an old summer hotel, remains. The associated cottages built by the Hamilton Hotel also remain, though the hotel itself was torn down. The Chebeague Golf Club was created by a group of summer residents near the Hill Crest Hotel in 1920. The Hill Crest itself was destroyed by fire the next year, but was promptly rebuilt in a "modern" style.

In the 19th century when the easiest transportation was by water, Great Chebeague had twelve landings. Some were built for commercial enterprises such as factories, and some were convenient to hotels. Eastern Landing was near the Hamilton Hotel, Jenks Landing was near Sunnyside House and Sunset Landing served Cottage Road. Sunset Landing served a potential summer colony that never developed. The wharf itself fell into disrepair and later broke up in a storm. Several of the wharves on the outside of the island also abandoned and deteriorated. The last two, Western and Central Landings were closed to public use during World War II because they were outside the submarine net. A replacement wharf for the Casco Bay Lines was built in Chandler's Cove. When the war ended, none of the old wharves went back into service, and all have rotted away.

There are very few remains left of the Army's presence on the island during World War II. Some of the barracks that were built were used for a time after the war as a watch-repair school, but when that folded some pieces were moved to other parts of the island for other purposes. However, the concrete magazine at the East End Point remains as a "folly" in the garden of a

summer house (which was actually moved when the Army came, and replaced near its original site when the war was over).

Buildings and other physical sites that tell of older ways of fishing are gradually being erased. Great Chebeague had many small fish houses along the perimeter of the island where fishermen stored and mended their gear, and socialized with each other. Some of these were grouped along the Back Shore at the East End, at Springettes, near Fenderson Landing, and in Coleman Cove. Stave Island was the site of a lobster pound. The disappearance of many old commercial uses attests not only to changes in business practices and the ravages of fire and time, but also to common attitudes that accepted such change as natural. Most of the island's barns have suffered the same fate.

Institutions of Historic Preservation

Town Programs

Neither the Town of Cumberland before 2007, nor the Town of Chebeague Island since adopted any programs, ordinances or committees to protect historical and archaeological resources. Site Plan applications must show the location of any historic or archaeological resources, and a later provision requires that development "must include appropriate measures for protecting these resources." The Subdivision Ordinance includes a section on "Preservation of Natural and Historic Features".

There are no historic districts, and no buildings have been placed on the National Register of Historic Places. Chebeaguers do not know whether the island has historic resources of regional or national significance since the current inventory of historic properties does not contain the level of detail needed to determine this, though much information of this nature does exist.

One reason for the apparent lack of concern about historical resources may be that Chebeague has not faced very dramatic threats to its historical fabric. Maintenance of houses, of whatever age is generally good, with a few notable exceptions. Chebeague has not had very many "tear-downs" where an older house, even a historic one is replaced by a larger modern house. Four houses and one barn, all on the shore, have been lost over the past 20 years. If another building boom like the one from 1990 to 2008 develops, this may be a greater issue. But by and large, the existing buildings from the 18th and 19th centuries are valued by residents and are still very useable.

Non-residential historic resources have not survived as well. This is probably because in that particular form they ceased to be useful. It is notable that a number of structures built as churches, factories barns or other uses have survived by being converted into houses or parts of houses which is the dominant land use today.

The Indian shell middens face a different threat. Where they form bluffs along the shore, they are gradually being washed away by the sea. Review of a recent proposal for bluff stabilization of one such bluff was allowed, in part because the site-specific review by the Maine State Preservation Commission found that erosion had been so extensive that no shell middens remained in that area.

However, further back from the shore other evidence of Native American occupation has been covered by centuries of soil. Camp sites including firepits and burial mounds are in danger of being destroyed by excavation for construction of houses, septic systems and roads, as they were destroyed earlier by farming.

Chebeague Historical Society

The Chebeague Island Historical Society and its Museum of Chebeague History are active in documenting and preserving Chebeague's history, and providing public education about it. It was founded in 1984 by a small group of interested year-round residents. Within the year the Society had incorporated, sponsored programs and had 100 members. From its beginnings CHIS collaborated with numerous large Maine institutions. One of its earliest programs was the Senior Citizen luncheon which evolved into the Community luncheon of today. Other activities include an annual lecture series, house tours, original island history plays and boat tours. The society's collections include thousands of examples of island material culture, including original papers from the island's recent secession from Cumberland, an extensive collection of island photographs, postcards, organizational records, ephemera, as well as artifacts relating to island.

The museum itself is housed in the Society's most expansive holding, the District 9 schoolhouse, built in 1871. The preservation of the building is an example of the Society's interest in historic preservation. The building was renovated between 1998 and 2002. A fireproof room archive was added and moveable shelves were installed in the collections area. The renovation of the Museum building and the operation of the Society have always been funded from dues, donations and grants, with no support provided by the Town.

The CHIS publishes a semi-annual newsletter, *the Sloop's Log*. It has collaborated with the Town of Cumberland and, more recently, the Town of Chebeague Island on projects ranging from interpretation of road and land records to cemetery and genealogical information. The Town and the Society recently shared an Island Institute Fellow.

Since 2003 the CHIS has presented exhibits that focused on island life in the 1870s, fishing, entrepreneurship, religion, education and World War II's transformation of Chebeague. Through these exhibits, publications and programs the CHIS informs about the past so that current residents will better understand the present and the inevitability of change. They provide the context so that citizens can better plan for the future of the Town of Chebeague Island. Currently the CHIS has over 500 members supporting this mission.

Issues

Now that Chebeague is an independent Town, the major issue related to its history is what will be the relative roles of the Historical Society and the Town in preserving that historical legacy. The Historical Society has committed volunteers, much knowledge about this history, and many material artifacts of it. The Town could take on some responsibility for preserving structures by means of historic districts. This would require the Town to create a Historic Preservation Committee which would develop design guidelines for any districts and would review renovation and new development proposals in them.

This idea has not been subject to public discussion on the island. The revision of the land use ordinances provides the Historical Society or a Town Historic Preservation committee with an opportunity to develop a proposal for including historic preservation provisions in the ordinance and spelling out the possible role of the Town.

The Society itself could also do more to encourage private efforts to preserve historic and archaeological resources. It could

- Complete the inventory of historic structures which would form the basis for determining which, if any merit nomination to the National Register of Historic Places.
- Could develop an informational manual (or a series of them) on the particular characteristics of local styles of architecture. This could help owners of old houses who have little knowledge of historic preservation, decide what kind of renovations would fit the character of their houses. It might later form the basis for historic district regulations.
- It could work with homeowners to
 - protect their properties from future change through historic preservation easements,
 - or qualify for State programs to protect historic resources.
- And it could begin the public discussion about whether the Town should be involved in historic preservation through the creation of historic districts. As development continues on the island there is an even greater need for education about historical and archaeological issues and artifacts, especially those that are disappearing.

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The Economy and the Working Waterfront

Because the Town of Chebeague Island is a group of unconnected islands, the Town and particularly Great Chebeague, has developed an economy that is, in this globally connected world, still somewhat separate from the economy on the mainland. On the other hand, the Town is also within the metropolitan area of Maine's largest and most dynamic city which inevitably shapes its economy as well.

Over 80 percent of working residents work on the island; many are self-employed. The balance commute to jobs on the mainland. This suggests a substantially autonomous economy. But because the population of the island, even in the summer is small, residents do a great deal of their economic activity – shopping, getting health care and other services, even recreation – on the mainland.

The island economy has traditionally been based on its natural resources. Agriculture and forestry are not major elements now, but fishing and tourism are still its mainstays. Both are seasonal in nature so it is not uncommon for island people to cobble a living together out of several jobs.

Fishing employs by far the largest number of people, most of whom live on the island. Fishing is still the backbone of the year-round economy and of the island's social identity. However, unlike the diverse along-shore fishery of the past, lobstering and clamming are almost the only kinds of fishing left. This suggests an uncertain future for this critical aspect of Chebeague life. It means that the issues of controlling the sale and adding value to the catch have become more important in recent years. Recruiting young fishermen is also an issue.

Chebeague's tourism also has a strong marine element. This means that the working waterfront including wharves and other access-points to the water is a doubly important aspect of the island's economy. Chebeague's working waterfront is not limited to one or two harbors. Instead, it takes in much of the island's coast, wherever there are moorings. There are several areas of concentrated activity at the Stone Wharf, Chandler's Cove Pier and the Boat Yard. At these wharves, there are often multiple, competing users – fishermen, ferry riders, freight haulers, and vacationers. It falls to the Town to plan for and regulate this working waterfront.

A less obvious part of Chebeague's economy is the number of year-round residents who are retired. They bring income into the community. They also are one element in the growth of island non-profits, some of which, like the Commons, serve the elderly, while some depend on them for volunteer work.

The issue of sustaining Great Chebeague's year-round economy is difficult to deal with but central to the purpose of this Plan.

Inventory of the Chebeague Economy

Economic activity within a community is usually divided into “export” activities that bring money into the community “from the outside” and “service” activities that circulate money within the community. Unconnected islands are different from many mainland economic communities in being physically isolated from the mainland, in having clearly defined boundaries and in having a limited population base. In the world of unconnected islands Chebeague is medium-sized, larger than Long, similar to Swans and North Haven, smaller than Islesboro, Peaks and Vinalhaven. It is also located conveniently close to Maine’s major metropolitan area as are Long and Peaks.

In the Portland Metropolitan area, however, it is comparatively isolated; more than Peaks, though probably less than Long. It is more cumbersome and more expensive to get to than mainland towns like Cumberland or South Windham that are the same geographical distance from Portland.¹⁰

The cumbersomeness and cost of the trip, of course, isolate Chebeague from some of the development pressures in places like Cumberland. This keeps the island population smaller and the island more rural in character. The tradeoff is that the island economy needs to be both more diverse and more self sufficient, and islanders are more dependent on jobs in their own community than people on the mainland are.

Chebeague’s current economy has been shaped by many social and economic factors:

- Its place in the regional transportation system which was central and convenient when much transportation was by water, but more isolated since cars have become the major mode of travel.
- The natural resources of the island – the marine resources that produced fishing and maritime trade, the good soils that allow for lumbering and farming; and the natural beauty and moderate summer climate that attracts summer visitors from all over the U.S.
- The size of its population, now about 330 people in the winter and 1700 in the summer.
- The entrepreneurship of its residents,
- And its history and economic traditions.

How has Chebeague’s economy developed over the past 100 years?

In **1908** the economy was probably more complete and diverse than it is now because the island was in some ways more self-sufficient from the mainland than it is now. However, it may have also been more integrated into and more important in the much smaller regional economy. Fishing was the major occupation. It was a diverse fishery, changing with the seasons, including

¹⁰ The distance is about 6 miles. A 20 minute door-to-door drive from Portland to Cumberland is equivalent to an hour’s trip to Chebeague, which also involves 2-3 changes of “transportation mode (car to boat for example), and an additional cost beyond the cost of driving of \$5.25 for parking and ferry fare.

seining for herring and smelts, groundfishing, clamming and lobstering. The island had its own Fenderson clam factory adding value to the fish being caught.

There was still some work for the stone sloops carrying granite from down east to cities and public works projects along the East coast. As concrete replaced granite, this major part of Chebeague's economy declined, and the stone sloopers themselves aged and died.

Chebeague lumber had been cleared in the 18th and early 19th centuries, leaving behind good farm land. There was still farming in 1908, though farming had begun to decline in the 1880s. Much of what remained was growing vegetables for sale on the island and the mainland.

Tourism was growing fast, though not as fast as on some of the other islands. Farmers were selling their land to developers or subdividing the land themselves for sale as summer cottage lots. Between 1880 and 1890 about 30 houses were built on the island – some as boarding houses and some as summer houses. Between 1890 and 1900 70 more were added, and 40 more between 1900 and 1910.¹¹ There were still two churches and there were more stores than today.

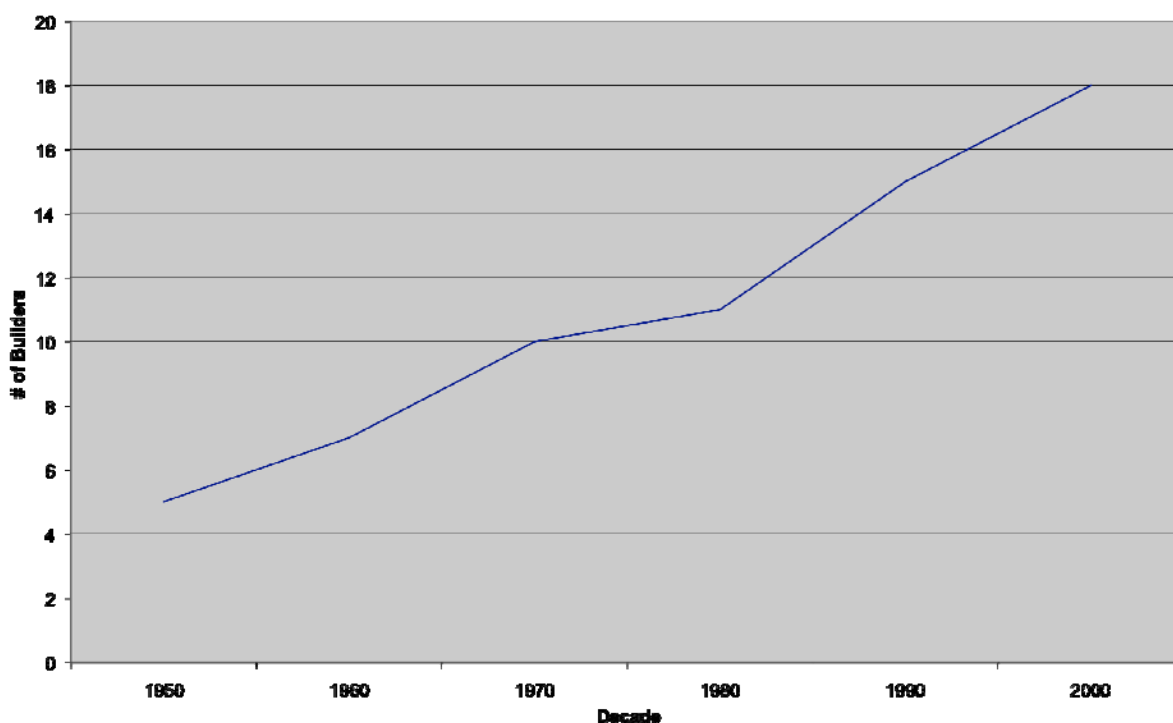
The last farms on the island lasted into the 1960s, but most of the cleared land reverted to second growth woods. At mid-century, fishing was the mainstay of the economy, supplemented by local retail and services and by a well-established summer community. Chebeague was beginning to shift its focus on the mainland from the City of Portland to its northern suburbs from Falmouth to Freeport. What had been at least three grocery/general stores on the island in the 1950s dwindled to one as the CTC ferry service to Cousins Island became more established in the 1970s and people did more shopping on the mainland. Children were taken to school at SAD 51 by boat from Chebeague to Cousins Island. Commuting to jobs on the mainland became practical after 1982 when CTC added a 6:30 boat year-round.

1982 was also the year when Chebeague undertook its first major campaign to raise money for an island non-profit, raising more than twice as much as the \$13,000 needed to put bathrooms in the Hall. This fundraising campaign was organized by a summer resident, Duke Faubert who was a YMCA fundraiser. It was the first of many based on his model, and initiated the dramatic growth in non-profits on the island

Home building was up from the very low figures of the 1950s and 60's. Between 1971 and 1980, 20 houses were built. Between 1981 and 1990 this increased to 30. Home repairs and remodeling were also growing. The graph below shows the increase in the number of contracting firms, both from the island and from the mainland, working on the island. A firm may be one contractor or a crew of 20.

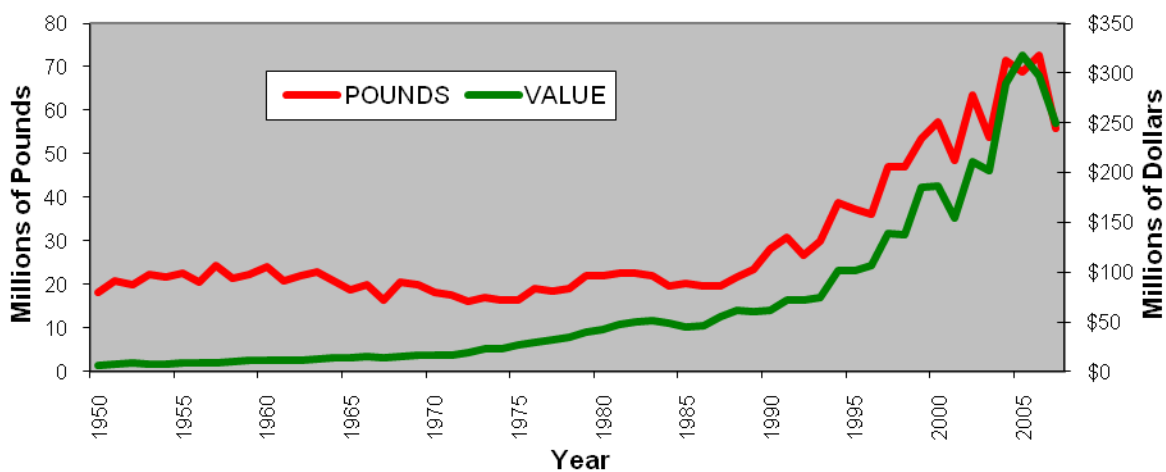
¹¹ These figures on housing construction are estimates based on the ages of houses listed in the Town assessment records. There are two sources of inaccuracy. One is that the dates in the assessment records are approximate. The other is that the count is based on houses that still existed in 1998, so any house that was new at the end of the 19th century, but that was demolished in the intervening 100 years is not counted.

Builders by Decade



In the 1980s the ground fishery in the Gulf of Maine declined dramatically and ever-increasing regulation reduced the amount of fish that could be caught. Increasingly, fishing meant lobstering. State-wide the dollar value of lobstering had been growing gradually since 1950 from about \$10 million to about \$50 million, though the catch in pounds had remained at approximately 21 million pounds. Then between 1990 and 2006 there was an enormous and rapid growth in lobster landings. State-wide pounds of lobsters caught rose from about 25

Maine Lobster Landings



million to about 72 million pounds per year and the value rose from about \$12 million to over \$300.

Since the end of the last recession in 2002, Chebeague has participated in the national economic boom, and then its sudden bust, though Maine did not partake of the highs that came to some states, and, as a result, has not suffered as much decline. Lobstering is now virtually the only form of fishing remaining besides clamming. Even scallops have been largely fished out and the State and Federal governments are trying to close the fishery in Casco Bay. Chebeague's waters produced an estimated annual lobster catch from 2004 to 2007 of 652,600 pounds, worth \$2,778,600, gross. The number of lobstercatchers, on Chebeague in 2007 was 38, and they hired a similar number of sternmen and other crew.

Lobstercatchers have done well over these past 20 years. But the narrowing of the fishery to one major catch places the fishermen and women and their families more at risk from either a decline in the resource or, as happened in the fall of 2008, a decline in market demand and price.

The vacation economy also grew with some turnovers in businesses such as gift shops and eateries. Changes in the ownership and management of some long-time establishments suggest that profitability even in this larger summer market may be uncertain.

The Chebeague Inn was thoroughly renovated, though not winterized, by an ambitious new owner in 2005-06. After being closed for the summer of 2007 it reopened under new management. In 2009 the management changed again. It hires many year-round and summer residents and has use more than a dozen island suppliers of goods and services. In 2008 both bed and breakfast inns on the island were closed. The Orchard Inn reopened under new management for the summer of 2009. The opening of Calder's Clam Shack in 2005 provided a summer dining option in addition to the Inn, though only on a take-out basis. The Slow Bell Café, successor to the Nellie G. Café, has not yet opened. The Boatyard, which serves both fishers and vacationers, has added a building that includes a new gift shop that also serves food and beverages. A gift shop was opened in 2007 at the Casco Bay Lines wharf. This pattern of several small eateries and gift shops has been stable for many years, though their ownership and location on the island changes.

More central to Chebeague's established and stable summer community, the construction of summer houses between 1998 and 2008 continued to grow, reaching 3.9 houses per year which translates to a growth in the summer population of about 15 percent. Indeed, so many houses were being built (5.5 per year including year-round houses) that many people hired builders from the mainland.

For some summer residents, rentals help cover the mortgage and taxes. Most (86 percent) of the summer-only houses are just used by the family that owns them. When no one in the family is in the house, it is vacant. Five percent of summer houses are used just as summer rental properties, and nine percent are used for part of the summer by their owners and rented out for the rest of the time. Of these 40 houses, 26 are included on a list of houses for rent at the Library. Rental houses are often occupied by the same renters from year to year.

The support for community non-profits that began with the new bathrooms in the Hall has also grown greatly during this time. The construction of the Library and the Health Center in 1989 led the way. In 1994 the Island Commons was established to provide assisted living services to island elders. In 2001 the District 9 schoolhouse which had then served as the Town garage, became the Museum of Chebeague History. In 2002 the Chebeague Recreation Center opened. Other organizations such as the Church and the Hall have also enlarged and winterized their buildings. Non-profits are now a significant employer on the island, providing xxx year-round jobs.

Finally, the number of islanders who commute to jobs on the mainland has declined slightly from 35 in 2000 to 26 in 2008. With the advent of Chebeague.net it is also possible for people to “telecommute”, though this does not necessarily make these jobs free of commuting to the mainland.

The Chebeague Economy in 2008

As indicated at the beginning, economic activity within a community is usually divided into “export” activities that bring money into the community from the outside and “service” activities that circulate money within the community. On Chebeague the major export “industries” are fishing and tourism (including the construction, gift shopping, meals, lodging, services like the boatyard, and recreational activities like golf that are consumed by summer visitors). These industries use Chebeague’s natural resources as their inputs: natural beauty and marine resources. Both tourism and fishing are largely seasonal.

By and large export “industries” are less limited by the constraint of the small population on Chebeague. Lobstercatchers or a business like Miller Designs are not limited in what they can sell to the island population since they primarily sell to buyers on the mainland. On the other side, local service providers are generally limited to what they can sell to people on the island. A winter population of 333 is not large enough to sustain many of the businesses and non-profits on Chebeague. However, the increase of population to about 1,700 in the summer is just sufficient. A larger year-round population might stimulate additional businesses, but in the visioning survey this was only mentioned by a handful of people as a policy option.

Table 1 shows estimated employment on the island by industry sector. These sectors are not mutually exclusive. For example, education and health are both professional fields but are listed under these categories rather than “professional/scientific”. The numbers were compiled on the island and are not from the census. The census data on employment by industry is based on the information from the 1 in 6 people who get the long form. This is too small a sample to be able to generalize to the total island population. The table also includes a number of people who live on the mainland but do most or all of their work on Chebeague as do some fishermen and contractors.

Table 1: Employment by Sector, 2008

Sector	People who live & work on Chebeague	People who live on Chebeague & work on the mainland	People who work on Chebeague and live on the mainland
Agriculture & forestry	2		
Fishing	70		5
Quarrying	1		
Construction	14	1	7
Manufacturing	8		
Wholesale Trade	1		
Retail Sales	7	2	
Transportation	13 ¹²	2	
Maintenance	7		2
Information	5		
Finance & Insurance	0	3	
Real Estate	1		
Professional, Scientific & Technical	3	14	
Education	7	4	8
Health	6	4	1
Food & Accommodation	14		18 ¹³
Management of companies	1	1	1
Arts	2	1	
Recreation	3		
Other service (cleaning, car repairs, gasoline, propane etc.)	12	1	2
Public service	10	1	3
Totals	187	34	47

In addition, one of the primary strategies for making a living on Chebeague where many jobs are seasonal, is to work at several jobs. Six people on the Zone F lobstering list are also on the list of homebuilders on Chebeague, for example. So by counting jobs, the table double counts people with more than one job.

¹² CTC has an additional 11 employees who do not live on Chebeague and who work on the mainland.

¹³ 11 of these live during the summer in Chebeague Inn facilities on the island.

Fishing is obviously the most common occupation, and as an export industry, is a major contributor to the island economy. Food and accommodations which is substantially “export” employs 32 people, almost half from the island, though most of this employment is in the summer. Retail sales and jobs also are more common in the summer. Transportation, local service and construction are all substantial sectors. The first two are year-round. Public jobs in education, Town government and the Post Office employ 21 people from the island, mostly on the island. Education is a fall through spring employer, but the others are year-round. Jobs on the mainland that island people commute to are mostly (79 percent) professional including finance, scientific, education, health and management, and except for education, are also year-round.

There is a small amount of hand manufacturing of craft goods such as jewelry, wooden objects, and boats, much of which is sold off the island. These rely somewhat but not completely on raw materials that have to be brought from the mainland. Other inputs that could be grown locally and used in small-scale manufacturing would include wool and food products grown on Chebeague and processed here. It is a short step from crafts to arts – painting, sculpture and literature, for example, that would not require a lot of imported materials. Selling local products on the internet and shipping them from Chebeague would require bringing in shipping materials, so smaller would be better, though if the value added to the initial inputs is substantial, the cost of imported inputs might be less an issue than the hassle of getting things to the island.

In an economy as small as Chebeague’s, even commuting is an export industry. The island does not benefit from the value that island residents add to products or services they provide on the mainland (working for L.L. Bean, for example provides that value to L.L. Bean). But the income people earn on the mainland comes back to Chebeague, and commuters probably spend a similar proportion of their income on the island as people who work on the island do.

CTC sells commuter ticket books which primarily are bought by people working on the mainland. But sometimes there are also island residents who visit sick relatives daily that buy them. The number of commuter books sold has declined very gradually from 35 in 2000 to 26 in 2008. In Table 1, 34 jobs are shown as work on the mainland. One commutes on CBL and several others may not commute every day.

Of course, to the extent that the island depends on commuters from the mainland to provide goods and services out here, we are also losing income. But Chebeague probably still has a larger proportion of employment of town residents “in town” than many other small communities. In this count of island jobs, 85 percent are located on the island or in its waters.

A similar argument can also be made for retirees as an export “industry”.. They bring income from Social Security and pensions most of which comes “from away” into the Chebeague economy.

On the other side “service” activities circulate money within the community. Businesses that operate year-round are the base of Chebeague’s service economy, though many also depend substantially on the larger population in the summer to be successful: groceries, heating/cooking fuel (including wood which is the only one produced locally, though solar and wind power

could be), gasoline, taxi service, car repair, island delivery, internet, housing construction, landscaping and lawn/tree-work, the Commons, the Library.

Chebeague has a number of incorporated businesses, including non-profits, and many self-employed people – the mix of the two is difficult to pin down. The census says that in 2000 Chebeague had 74 self-employed workers in their own businesses compared with 77 wage and salary workers and 25 government workers. As indicated above, these extrapolations from the long form are probably not very accurate, but this gives some idea of the nature of the employment. Fishermen are largely self-employed. Most of the island contractors work alone or with a single helper. By contrast, in Cumberland County as a whole only 15 percent of workers are self-employed.

Looking at incorporated business, the 2006 ZIP Code Business Patterns indicated that ZIP 04017 had 17 establishments with 62 employees. This listing does not include self-employed people. At the large end of the incorporated businesses are the CTC with 25 year-round employees (12 full-time) and operating expenses of \$977,000; and the Chebeague Inn with 30 full and part-time summer, and two year-round employees.

A major issue about work on Chebeague is that much of it is seasonal, with far more jobs available in the summer and fall than in the winter. Almost all businesses, some non-profits like the Library and the Rec Center, and even the Town government have more activity in the summer. The population swells with summer visitors, the lobstering season is in full swing and so is the construction season. Some businesses, like lobstercatchers, visitor accommodations and food and gift shops make most of their income during the summer. The small amount of farming on the island is also concentrated in the summer. Non-profits like the Library or Chedemption deal with the increased business by using volunteers to increase their work force. But most businesses hire summer workers. Sometimes they find it difficult to find enough employees on the island. By contrast, only the school, and jobs in snow-plowing and forestry operate primarily in the “off season”.

As this suggests, a particular characteristics of island life is that many households have income from a variety of different jobs. This is essentially not very different from mainland families with two working parents. Indeed Chebeague has plenty of these. But the seasonal nature of much of the work on Chebeague means that people may need to have summer and winter jobs as well to make a year-round living.

In recent years the creation of non-profits like the Library, the Commons and the Rec as well as the creation of the Town government have generated a variety of new year-round service jobs. Many other businesses stay open throughout the winter. Other year round retail and service jobs on Chebeague include work on the ferries, internet service, the Post Office, sale of gasoline, home heating oil and propane, housecleaning, car repair, graphic design, jewelry making and other arts and crafts, and, some kinds of construction work.

Because the Chebeague economy is small, the island has a lot of service-expenditure leakage. Islanders buy many goods on the mainland and either lug them back by hand or have them delivered at considerable cost. Two bales of straw from the mainland that originally cost \$14

cost \$35 by the time they reached the buyer on Chebeague. People buy much of their food, as well as things like clothes, furniture and appliances on mainland. Also most professional services – health care, legal assistance, financial services and insurance – are purchased and consumed on the mainland as are entertainment such as movies and concerts. It is difficult to get service providers to come to the island because of the cost in time and money. Many of the services and supplies for the fishing industry also do not come from Chebeague, though the Boatyard, and Dropping Springs Bait Company get some of this business.

Summary of Chebeague's strengths and weaknesses

Chebeague is isolated by having no bridge or car ferry connection to the mainland. This is an advantage for maintaining the island's traditional life-style, and particularly for tourists and retirees. It is a disadvantage because of the cumbersomeness and higher cost of transporting goods to and from the island, as well as commuters to the mainland and people who provide services to the island. It is also isolated from modern communication technologies.

It has the advantage of being located in the State's largest metropolitan area, with a commute to the mainland that is short for an unconnected island.

The island population is very small in the winter and, though five times larger in the summer, is still relatively small for supporting a wide range of enterprises. This also means that in many areas there is little competition because the population is not large enough to support more than one business. However, this small size is a benefit in maintaining the strong sense of community which is a drawing point for residents.

The economy is very seasonal. Vacationers come in the summer and lobstering is done in the summer and fall. This is not a problem as long as families make enough in the summer to last through the winter, but tourism-related jobs are not high-paying and income from lobstering is subject to fluctuations.

Ownership and control: Most of the enterprises on the island are owned by island people either through self-employment, stock ownership (CTC), cooperative ownership (Dropping Springs LLC) or as local non-profits. The one exception is the Inn.

Raw materials and resources: Chebeague is well situated to use marine resources and natural resources of good farmland and natural beauty. The population of lobsters seems to be healthy, but demand and price can fluctuate widely. In general, wild fishing is probably really in decline but fish farming might not be. Land and Wood may be old-fashioned, but they still exist. Natural beauty and rural character draw both summer people and year-round residents. Fishing and tourism are complementary

Chebeague's Role in the Portland Metropolitan Economy

Chebeague has always been part of the Portland metropolitan area even when that economy was much smaller than it is now. However, since the 1960s, as the metro area has grown in population and area, and ferry routes on Casco Bay have changed, Chebeague's focus has shifted

away from downtown Portland, particularly to the suburban areas to the north – Falmouth, Cumberland, of which Chebeague was a part until 2007, and Yarmouth.

Being close to Portland and other parts of the metro area is clearly an advantage to Chebeague. Frequent moderately convenient ferry service to a metropolitan center for work, entertainment and services attracts residents. Among all the unattached islands, total ferry trips per person in 2005 were highest for Peaks, Long and Chebeague because of this. This is also probably why Chebeague has the largest proportion of elderly people of any of the islands except Great Cranberry. Retired people do not have to make the daily commute to the mainland, but they can easily go when they want or need to.

Chebeague also contributes to the Portland area. The Island Institute’s study of the cumulative economic impact on Cumberland County of all of the year-round Casco Bay Islands estimates that

the approximately 2,200 households who reside on the islands for some or all of the year account for approximately \$64 million in consumer spending. That is one measure [of the size of the islands’ economies.] The approximately 180 enterprises – businesses, non-profit entities and government agencies – that operate on and around the islands employ nearly 800 people and generate “sales of nearly \$70 million. [An estimate of the direct and indirect impacts of this economic activity indicates] that the total economic impact on the Greater Portland economy from the island economy amounts to \$116 million in business sales, supporting over 1,650 jobs earning total income of just over \$50 million. These figures indicate a sales multiplier for island economic activity of 1.6, an employment multiplier of 1.4 and an income multiplier of 1.5.¹⁴

This report did not explore economic differences among the islands. It emphasizes the seasonal nature of the islands’ populations and spending patterns. About 36 percent of the estimated \$64 million spent by island households in the County in 2007 was spent in the July-September quarter. The major employers for all the islands are fishing (employment of 110 people) and construction (employment of 125 people).

Depending on how Chebeague decides to shape its economy in the future, it could receive assistance in contributing to achieving a number of the goals in the Greater Portland Council of Government’s *2008 Comprehensive Economic Development Strategy*.

Though Portland is the state’s major city, farming, forestry, fishing and tourism are all still important sectors in the Cumberland County economy and these sectors have continued to grow, though not as much as growth in retail and service jobs. One of GPCOG’s goals is to support working farms, forests and waterfronts. Moreover, the agriculture, forestry and marine/aquaculture sectors are seen as future technology-based economic clusters in which geographically concentrated knowledge, innovation and entrepreneurship drive the development

¹⁴ Planning Decisions, Inc. *An Economic Inventory and Impact Analysis of the Casco Bay Islands*. Rockland ME: the Island Institute, Oct. 1 2008.

of new business forms that are environmentally sound and sustainable. If Chebeague chooses to focus on making continued use of its natural resources it may be able to tie into County services such as its revolving loan fund and Micro-Enterprise Centers intended to strengthen new and expanding micro-enterprises (businesses with fewer than 5 employees).

It might also encourage GPCOG goals such as the development of the “creative economy” – particularly arts and crafts, and the development of four-season and car-free (for example, ferry and bike) vacation options.

Finally, GPCOG’s regional job forecast for 2025 indicates that Chebeague would be in a favorable position to take advantage of future job growth on the mainland. This forecast was done before the 2008 recession began and before Chebeague became a Town, but it still may be useful in thinking about trends that might affect Chebeague.

The major one is that the projection estimates that when the economy grows again, there will be fairly substantial growth in jobs in the Portland-North area. Falmouth, Cumberland and Yarmouth are expected to see growth particularly in service jobs, while, as one might expect, Freeport may have more growth in the trade sector. The “residual” jobs shown for Cumberland probably include Chebeague’s fishermen.

If Chebeague has an image of new young families coming out here to live **and work** on the island, they have to have jobs on the island: in fishing, farming, manufacturing, in services including marketing or tourism, or services that can be provided on the internet.

Alternatively, some might live on the island and work on the mainland. Commuting to jobs on the mainland brings money into Chebeague’s economy and does not seem to deter people from participating fully in the community. Jobs in the Portland North communities, many of which would be year-round, would be fairly easily accessible to commuters from Chebeague.

Cumberland County Full Employment Forecast for 2025

Municipality	2000 jobs	2025						
		Manufacturing	Residual	Trade	Services	Total	Net change	% change
Brunswick	16,816	650	1,068	3,778	13,784	19,280	2,464	15%
Cape Elizabeth	1,987	57	183	256	1,621	2,117	130	7%
Cumberland	1,603	48	313	137	1,564	2,061	459	29%
Falmouth	6,013	197	1,137	1,243	4,764	7,341	1,328	22%
Freeport	8,564	316	479	6,048	3,858	10,701	2,137	25%
Gorham	5,756	569	1,190	810	4,072	6,641	885	15%
Gray	2,667	151	734	713	1,427	3,025	358	13%
New Gloucester	866	71	258	123	1,422	1,875	1,008	116%
North Yarmouth	523	18	223	31	303	575	52	10%
Portland	94,916	3,612	16,324	12,102	77,624	109,662	14,745	16%
Pownal	181	16	54	24	124	217	37	20%
Raymond	1,383	401	121	187	890	1,599	216	16%
Scarborough	13,594	670	3,474	3,647	10,339	18,130	4,536	33%
South Portland	30,137	2,288	4,103	8,899	21,091	36,380	6,244	21%
Standish	2,465	265	430	461	1,637	2,794	329	13%
Westbrook	13,253	2,277	3,292	2,069	7,188	14,827	1,573	12%
Windham	6,664	284	801	2,122	4,741	7,948	1,284	19%
Yarmouth	4,597	431	1,121	1,179	2,504	5,236	639	14%
Rest of County	6,769	618	982	1,484	4,799	7,882	1,113	16%
Cumberland County	218,753	12,939	36,287	45,313	163,751	258,290	39,537	18%

Source: University of Southern Maine's Center for Business & Economic Research and Greater Portland Council of Governments

Issues

The Changing Age Structure of the Population

Overall in Maine the population is becoming older. In Cumberland County between 2010 and 2025, the only two age groups that are expected to grow are those between 55 and 74 and those over 75. Chebeague already has the oldest average age population of any of the unconnected islands except one. This is probably a result of the attractiveness of the community itself and the

ease of getting to the state's major city. As the baby boom reaches retirement age there will not only be a group of island workers who will retire, but also a wave of retirees from away who either have family connections to Chebeague or who have been summer people. While some of these retirees will go south in the winter, the recent past suggests that some will choose to live on the island year-round.

Retirees from away bring income into the community. Providing housing, health and recreation-related services for them may create jobs at the Commons, the Rec Center, the Health Clinic or in private services and home care. At least some of these would be year-round. The issue with the retiring baby boom is one of balance, and a balance that will not be easy to establish. Chebeague's desire to keep and attract a substantial number of young families will require overcoming the current state-wide and local trend toward an older population.

Another element in the effort to attract and keep young families is the effect of State policy on retiring lobstering, and perhaps other fishing, licenses. This policy was modified to protect island economies in the 2009 session of the Legislature, and is discussed in the section on the marine economy.

The balance between year-round and summer employment.

Many people on Chebeague don't like to think of the summer economy as "tourism" because the yearly return of summer families, many of whom have been coming to Chebeague for generations, does not seem like the crass, insensitive tourism of caricatures. Indeed, they own almost two thirds of the houses on the island. But these "summer natives" and their children, grandchildren, other relatives, friends and friends of friends shade gradually into weekly renters, several-day guests at the Inn or B&B or day trippers from Kennebunk or Lewiston. They borrow bikes, eat at the Clam Shack, shop at the gift stores and go to island events and fund-raisers like the Ladies Aid Fair. They are critical to the present economy, enabling year-round residents to enjoy more goods and services than 333 people could normally expect to support. But they do support an economy that is highly seasonal in nature and where many of the jobs are low-paying. During the recent boom years they have also bid up the price of land, especially on the shore and have begun to tear down and replace some modest older houses with larger ones.

The question is whether to leave the existing summer economy alone to develop as it may, or whether to try to evaluate and then encourage new island businesses catering to new kinds of tourism – eco-tourism, day trippers, fall and winter tourism (mud season tourism seems unlikely), children's camps, sailing, kayaking or fishing vacations, camp-grounds or tourist cabins (like the old Hamilton Hotel cabins) or whatever else island entrepreneurs may come up with. Some of the Town's outer islands are already used for some of these kinds of tourism through the Maine Islands Trail or people who visit State-owned islands in their own boats. These visitors have little awareness of Chebeague's ordinances, policies or concerns as a town.

The issue of whether to encourage more visitors and what kind would probably be controversial among both summer and year-round residents. Most, but perhaps not all of the jobs created by these ideas would be summer-only.

The balance between on-island and off-island jobs

Commuting to jobs on the mainland became feasible in 1982 and since then there have been a relatively small number of Chebeague residents who work on the mainland, now making up 15 percent of the jobs held by residents. This involves extra expense and long commuting days, but perhaps not longer than those of many mainland workers. It does not seem to dampen these peoples' involvement in the community.

On the other side, in recent years when many homes, particularly summer ones, were being built many people brought construction crews from the mainland. What might the Town do to turn this demand into an employment opportunity for current and/or future year round residents?

Strategies for attracting young families

The biggest thing Chebeague has to offer is its quality of life – interesting people and a strong sense of community. The strategy for attracting young families would be to make living on the island increasingly attractive, with a good school, day care and other services for young families. We need to build on these strengths without misleading people about such problems as cumbersome and expensive travel and middle and high school on the mainland. Perhaps it would make sense to make a video about “what life is really like” on Chebeague – the ups and downs but also the values of the community.

The high cost of living and especially housing for families may pose a problem here. It may not be greater than other coastal communities but it is higher than other communities on the suburban fringe, perhaps with similar commute times to regional job centers. Developing strategies to provide affordable housing is at least part of the answer.

Natural beauty and rural character are also important parts of the quality of life on Chebeague. We can tell people that the views over the water that they see from Chebeague are mostly going to remain the same since most of the other islands except Hope are protected. But will Chebeague be able to retain its own rural character in the face of future development?

Regulating Business Development

The location of businesses is regulated by the Town's Zoning Ordinance. The current zoning, though it formally divides the island into a residential and a commercial zone, encourages the creation of new businesses because all the land uses that are allowed in the commercial zone are also allowed in the residential zone after review by the Planning Board or the Board of Appeals. It also allows home and home-based occupations. Entrepreneurs do not have to find a “commercial” building in order to establish a business. They can simply use an existing building or build a new one at their house. This kind of business-friendly flexibility should be continued in any new zoning ordinance.

The Zoning Ordinance lists types of businesses that are allowed on Chebeague. In general these are kinds of businesses that do exist or have existed on the island. However, some businesses, like funeral homes or the extraction and bulk storage of groundwater that have never existed. And, on the other side there are some businesses that actually exist such as a sawmills and a hotel that are not mentioned in the zoning at all. This makes them “non-conforming”, leaving them in a legal nether-world if the owners want to make any changes. It would make sense not only to revisit the specific list of permitted land uses in the ordinance, but also to consider

whether a more flexible, performance-standards approach to the permitting of businesses might work better.

Chebeague has not had a manufacturing facility since the closing of the Fenderson Clam Factory, before any zoning was adopted in the Town. There is no provision for industrial uses, even light industry. Again performance standards might make sense here.

Chebeague should also develop an ordinance that regulates wind turbines both on the islands and at sea. The state is looking at off-shore sites. There is some possibility of extending the boundaries of shore towns so that they would be involved in the decision-making. Perhaps the off-shore islands could have access to some of the energy generated. But this is not energy that we as a community would control.

Sometimes regulations by the State, such as those for processing seafood or having restaurant, make starting a business very onerous for new businesses. Information might be available at the Town Office about what State reviews and approvals are needed to set up particular kinds of businesses. For regulations about processing seafood, it may be possible to work with the Island Institute and MOGFA get a state law passed that eases the requirements for small processors.

Staff for Economic Development Planning

At present the Town of Chebeague Island has no economic development plans. The Chebeague Community Association (CICA) has been doing some work on energy generation and energy efficiency. It is also considering creating or partnering with a micro-loan program. Dropping Springs LLC has also worked with CICA and more recently the Island Institute on a plan for branding and marketing Casco Bay lobsters.

The Island Institute is considering having a multi-island Fellow who would work with islands on economic development issues. It may also be possible to write a grant to hire someone to do economic development planning with Chebeague. In the case of individual new entrepreneurs, it might be possible to match them with experienced mentors -- business people working or retired on the island.

Are Any Additional Public Facilities Needed to Encourage Economic Development?

Water and sewer service are not available or contemplated on Chebeague. Respondents on the visioning survey said they wanted better broadband service as well as better cell phone service.

References

Curran, Sarah and Jeremy Gabrielson. *Island Indicators*. Rockland ME: the Island Institute, 2007.

Greater Portland Council of Governments. *Comprehensive Economic Development Strategy*, 2008. Portland ME: GPCOG, 2008.

Planning Decisions, Inc. *An Economic Inventory and Impact Analysis of the Casco Bay Islands*. (Rockland ME: The Island Institute, Oct 1, 2008).

Inventory of the Marine Economy

The Marine Resources inventory examined the natural resources available to the residents of the Town of Chebeague Island – why they are rich fishing grounds, the condition of stocks of commercial species and what threats the face. This section looks at how residents of the Town use the Town’s waters – for fishing, for transportation, for recreation and for getting back and forth between the water and the land at “access points” and “working waterfronts” -- landings, wharves, or moorings. Since most of these activities have at least some (if sometimes marginal) economic dimension, these get lumped together into the idea of “The Marine Economy”

The marine economy is probably the single largest element in Chebeague’s overall economy and is responsible for a good part of its “export industry” – business that draws money into the economy from outside rather than circulating money that is already on the island. The most obvious and traditional element is fishing including clamming. Most lobsters and clams are sold on the mainland and even the ones that are sold on the island are more likely to go to vacationers who bring money “from away”. Another that also goes back to the 19th century is recreational boating-- storing, maintaining, sometimes building and maybe occasionally renting both fishing and recreational boats. And a third part of the marine economy is transporting people and goods by ferry and barge. This service serves both the year-round and the summer population.

The marine resources inventory indicates that Chebeague still has very rich marine resources, despite the national and international decline in fisheries. These resources were used for fishing and transportation by the Indians before Europeans reached Maine in the 16th Century. They have been used more and more intensively since that time. Until the late 19th century fishing and transportation of goods and people were the primary uses of Casco Bay’s waters. Looking at the occupation of household heads on Chebeague, the average for the 1850, 1860, 1870 and 1880 censuses are: 19 percent fishermen, 50 percent mariners and 25 percent farmers. After the Civil War recreation also came to be an economically significant use of the water as well and by 1880 16 percent of household heads had some “other” occupation including taking in summer visitors.

As the year-round and summer populations of the Town have increased, so have the problems discussed in the resources inventory. Some are problems that threaten the marine resources themselves such as water pollution and overfishing. Others involve conflicts among the users of the Bay – fishermen, ferry riders, other transportation services and summer vacationers. These are issues about such things as who fishes and where, who moors their boats, where, who gets to use the scarce parking space at wharves and other shore access points, and who gets to use the land on the shore.

Fishing

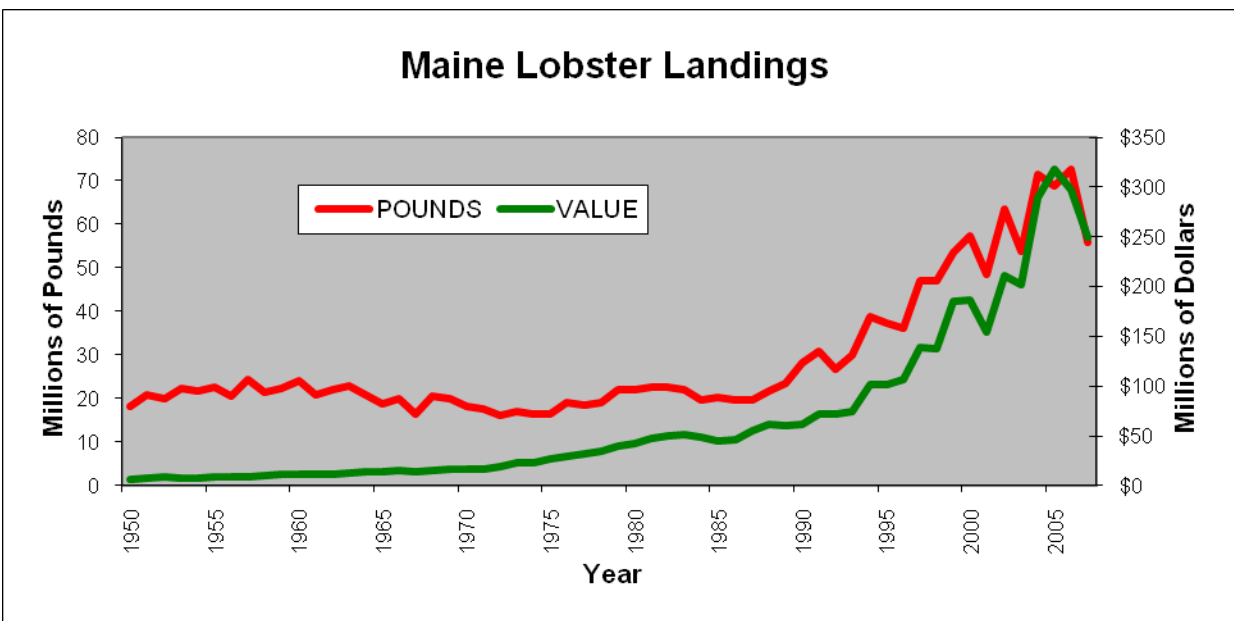
As the census figures for the 19th century indicate, fishing has long been a major sector of the economy on Chebeague. In the middle of the 20th century there was still a diverse “along shore” fishery that included a variety of kinds of ground fishing in Casco Bay and on banks further out, seining for herring, lobstering, scalloping, clamming. Since then, however, groundfish were overfished, herring went elsewhere, and a brief fishery for sea urchins in the 1990s flamed up and died out. The state and federal governments are now in the process of trying to close Casco

Bay to scallop dragging to allow the scallops to recover. Clamming continues and mussel farming in the Town of Chebeague Island employs some non-Chebeaguers. But lobstering is now the only major fishery left.

On Great Chebeague about 65-70 people make much of their living from fishing and another 40 work during the summer/fall lobstering season.

Lobstering

State-wide the lobster fishery boomed starting in about 1990 as ground-fishing and other kinds of fishing declined. In 1973 the number of fishermen in Maine with a majority of their income from lobstering was 2,500. By 1998 it was 5,500. The lobster catch increased from about 28 million pounds worth about \$112 million in 1990 to the peak of about 93 million pounds in 2010 with a value of \$308 million.



Traditionally lobstering was regulated informally by lobstermen. Lobstercatchers from a local area divide up the bottom into territories for each fisherman, enforcing the territories and lobstering rules such as v-notching egg-bearing females and prohibition on taking shorts and large lobsters by informal pressure. This was a system of “mutual coercion, mutually enforced.” On Chebeague now, the system of territories no longer exists, though fishers focus their effort in the Town’s waters. The conservation measures related to size and sex of lobsters taken have become part of the State lobstering regulations.

State-wide the lobster fishery boomed starting in about 1990 as ground-fishing and other kinds of fishing declined, and no limit was set on the number of traps a lobsterman could have. In 1973 the number of fishermen in Maine with a majority of their income from lobstering was 2,500.

By 1998 it was 5,500. The lobster catch increased from about 28 million pounds worth about \$112 million in 1990 to the peak of about 93 million pounds in 2010 with a value of \$308 million.

Throughout this period of change, Chebeague reflected the statewide pattern. The number of lobster licenses issued to Chebeaguers increased steadily from 49 in 1990 to 63 in 1996. In 2000 Chebeague had 54 licenses and 45 lobster boats, fishing an estimated 35,000 traps.

The dramatic increase in lobster landings was not only due to an increase in the number of lobstercatchers. Changes in technology also encouraged more intense fishing effort. Larger, faster boats with more electronic gear including GPS and more allowed lobstermen to increase the number of traps they fished and to shift traps from place to place more easily to take advantages of changes in migration patterns. The size of traps also increased from one-parlor to two. These changes in technology made lobstering more capital intensive and harder for young fishermen to enter because of the cost.

On Chebeague the number of the largest lobster boats with more than one crew member grew in use during the 1990's from 1 in 1990-91 to 10 in 1995-96. These boats allow lobstermen to follow the migrating lobsters out further to sea in the winter. Perhaps because they also involve higher costs of operation, the number declined gradually to 5 in 2007-08.

The rise in the numbers of lobstermen and the number of traps through the 1980s and 90s, increased the pressure on the lobster resource. In 1995 the State adopted a limit of 1200 traps per lobsterman, which may have actually encouraged more widespread adoption of the "more efficient" technologies, since the law did not limit the number of people who could get lobstering licenses. The State did, however, divide the coast of Maine into seven lobster "zones" in which fishermen would play an active role in the management of the resource.

Chebeague is in District 3 of Zone F and it has a representative to the Zone F Council elected by the lobstermen. Communities such as Harpswell, with more fishermen, have several representatives. In Zone F the total number of traps per license was reduced to 800 by the year 2000.

Local councils including the one in Zone F have also reacted to the boom growth by adopting stringent requirements for entry into the fishery, allowing only one new lobster license for every 4,000 trap tags retired. People who want to become licensed lobstercatchers must serve an apprenticeship as a sternman. Sometimes it takes 10 years to get a license. At that point, the fisher can have 300 traps. Given the capital cost of entry into lobstering, 300 traps may be sufficient down east, but it is not enough to support a family in Casco Bay.

On Chebeague this restriction in the issuance of licenses, combined with the gradual aging of the large cohort of lobstermen from 2000 have reduced the number of lobstermen, and particularly those younger than 50, significantly. In 2010 there were only 34 lobster licenses issued, 22 fewer than in 2000. Nine of these 22 people no longer lobstering from Chebeague, still live on the island but have retired or given up lobstering. Three died. But ten others moved off the island including seven who gave up lobstering as well. Only two new people on Chebeague

became license-holders between 2000 and 2010, and one of them was among the ten people who later left the island.

Even with this decline in license holders, there are still 70-75 island people involved in fishing when crew members are added. Of the 34 licenses, 27 were licenses for a boat with a sternman, and 5 other boats that fish in deeper waters have two to four additional crew. Most of the crew members live on Chebeague during the summer and some, year-round.

The lack of recruitment of young lobstercatchers means that in 2010 only 8 (26 percent) of the license holders were under the age of 50 compared with 35 (67percent) of the license holders in 2000. Many of the baby-boom lobstermen are likely to think of retiring within the coming ten years, and without further recruitment of younger fishermen, the number of lobstercatchers will decline dramatically. This shows the impact on Chebeague's major industry of the decline in young people on the island described in the Population Inventory .

Until this year, the state did the reallocation of lobster licenses which meant that if two lobstermen on Chebeague were to retire their licenses, the young lobstercatcher allowed to get a new license might be from Beals Island or York; not necessarily from Chebeague. This has been a practice that worries fishermen on the unconnected islands whose economies depend substantially on lobstering.

In response, the 2009 Legislature passed a law that allows islands to opt for a new, island-specific reallocation process. If 10 percent of the lobster-license holders on an unconnected island petition the DMR Commissioner, and two thirds of its license holders vote in support, the Commissioner can set up a limited entry zone. The vote would also suggest the number of licenses required on the island. The Commissioner can accept or reject that number based on consultation with the lobster management zone council for that area. When the limited entry zone is set up, so is a waiting list for its licenses. The Commissioner will adopt rules defining residency, allowing for temporary absence from the island, and providing an opportunity for the number of licenses on the island to increase if that is appropriate to the island and the local lobster resource. If a holder of a license in a limited-entry island zone moves off the island, s/he cannot take the license along. But if s/he had lived and fished on the island for at least eight years, s/he could go directly on another license list in that lobster management zone. If s/he had lived or fished for less than eight years on the island, s/he could move to another area in that zone, but would have to go on the waiting list.

There is no source of data on lobster landings for the whole town. However we do have information from 2004 to 2007 for Dropping Springs Lobsters, LLC. This "coop" includes 18 of Chebeague's lobstercatchers. They have a float near the Boatyard (at Dropping Springs) where they buy lobsters. Non members can sell to the coop, and in 2007 18,400 pounds were sold by non members. Members of the coop landed a yearly average of 326,330 pounds of lobsters between 2005 and 2007, worth an average of \$1,389,300 per year. Of this gross, about 73 percent went to expenses, particularly bait, for a net of \$375,111. Dropping Springs has one full-time employee during the season with several part-time helpers.

Dropping Springs members make up about half of the full-time Chebeague lobstermen, and if their landings are typical of full-time lobstermen on the island, then the totals for Chebeague may be in the range of 652,600 pounds of lobster yearly or \$2,778,600 gross.

Lobstercatchers who do not sell to Dropping Springs sell their lobsters to lobster smacks from dealers in Portland.

Though one of the major expenses for the lobstermen is bait, not all the money spent on bait is lost to Chebeague. Dropping Springs Lobsters, LLC has spun off a bait business that also sells both to members and non-members. It employs a manager throughout the year and two to three part-time workers in the summer.

So lobstering is one of the Town's two major "export industries". More than that, however, the lobstercatchers define much of the way of life and identity of the Island. Dropping Springs Lobsters is the latest effort to work together to increase the profit from lobstering. The possible reduction of entry of young lobstercatchers has been seen not just a problem for the current lobstermen, but as a problem for the whole community.

However, in 2008 the lobstercatchers and the Chebeague community experienced a more immediate threat to the lobstering industry. While many other kinds of fishing in Casco Bay have declined because of overfishing, the vulnerability of lobstering at this point seems instead to lie in catching too much of a perishable, high-end but relatively undifferentiated commodity. The national and international financial crisis in the fall of 2008 resulted in a precipitous decline in the market for lobsters. For a time, the boat price to the fishermen fell below the actual cost of fishing.

This crash prompted the lobstermen to begin work on strategies for gaining more control over the marketing of, and/or for adding more value to the sale of their product. They have established the Calendar Islands marketing company to brand and directly sell their product. It is not the role of this Comprehensive Plan to recommend what they should do, but it can recommend that the Town, island voluntary associations such as CICA, and the Island Institute support these efforts whenever possible.

Clamming

Clamming is no longer a major direct contributor to the Chebeague economy. It currently provides income to some fishermen, and now that there is very little scalloping in the winter, if additional licenses were available, it might play a larger role, particularly if the general economy is in recession. Clamming is also one element in the Town's vacation economy.

State-wide the entire clam fishery has declined dramatically since its high in the 1940s. The decline has been due both to environmental and human predation. Green crabs, which were introduced into Maine after World War II are a major predator on soft-shell clams. So are eider ducks which have increased significantly in Casco Bay over the past 20 years. Humans have been the other predator, though the state now regulates clamming to mitigate the effects of overfishing.

In Cumberland County as a whole, 2,257,000 pounds of clam meats were harvested in 1946. In 1950 2,281 clammers dug an average of 202 bushels of clam apiece per year. By 1959, with prices that had remained stable, the number of pounds of clam meats had declined to 32,000. At that point prices began to increase rapidly, a trend that continued through the 1970s and 80s. This increased the number of licenses and the total harvest went up to 916,000 pounds of meats in 1983. Even given this increased harvest, in 1973, 5,027 clammers dug an average of only 82 bushels apiece per year. By 2007 the total of pounds of clam meats dug in Cumberland County had fallen to only 402,000.

Moreover, Chebeague has much less clamming than Yarmouth, Freeport or Harpswell, probably simply because of the size of the productive flats available. In 2007 only 4,700 pounds of shell stock were sold to dealers off the island, compared with more than 60,000 in Yarmouth and 416,000 in Freeport. Among the Casco Bay islands, however, Chebeague is the only one that has commercial clamming under the DMR regulations.

Local communities are part of the State Shellfish Management program. Revenues from clam license sales are used to support the program. The local community must have a Shellfish Warden who does studies of the size distribution of clams in various flats. The State, in turn, determines how many licenses the Town can issue. In 2008 the Town of Chebeague Island issued ten commercial licenses. If the number of legal-size clams in an area falls too low, the area may be closed from clamming until the stock recovers. At the moment, Indian Point Cove is closed for this purpose, leaving the rest of the Little Chebeague Bar and Johnson Cove as the only areas of the shore actually used for commercial clamming.

Under the state program commercial clammers must report to the clam warden when they go out and how many bushels of clams they harvest. They are allowed a maximum of two bushels per day. On Chebeague, among the ten clammers some are more active than others.

The Town also issued about 180 recreational clam licenses in 2008, with a limit of one peck per day. Many of these licenses are issued to year-round residents but non-resident summer people can and do get licenses.

Aside from closures of flats to allow the stock of clams to recover, flats can be closed for either health or bureaucratic reasons. Every summer the Shellfish Warden takes water samples as described in the resource inventory, which are analyzed by the State for coliform bacteria. One area on Chebeague is routinely closed in the summer because of the presence of an overboard discharge septic system. Flats can also be closed because of storm-related pollution or red tide.

But areas may also be closed because there has been no regular 12-year shoreline survey for sources of pollution by DMR. Until spring 2009, much of the Town's flats were closed because they had not been surveyed. However, this survey has been completed and these flats are open.

The state inspection that must be made in order to open these flats provides a good opportunity to identify areas where surface water runoff is polluting the flats, or sediment from runoff is smothering the clams. At that point existing regulations and education can be used to reduce the problem and if effective regulations do not exist, new ones can be developed.

The Town of Chebeague Island has a Shellfish Commission and a Shellfish Warden. Having a warden located on the island is an advantage both in terms of the ease of getting a license and for monitoring compliance with the clamming regulations. The shellfish management program seems to be effective.

However nitrogen pollution and the growth of green algae on commercial clam flats is an issue. It may originate either from the mainland, from the use of fertilizers on Chebeague, from pollution from heads on boats or birds in the water or from all of these. The Shellfish Warden has been trying to get a mobile pump-out station for the island. But this is not a problem that can be dealt with solely by the Shellfish Management Program. It requires island-wide and regional education and action to prevent the pollution.

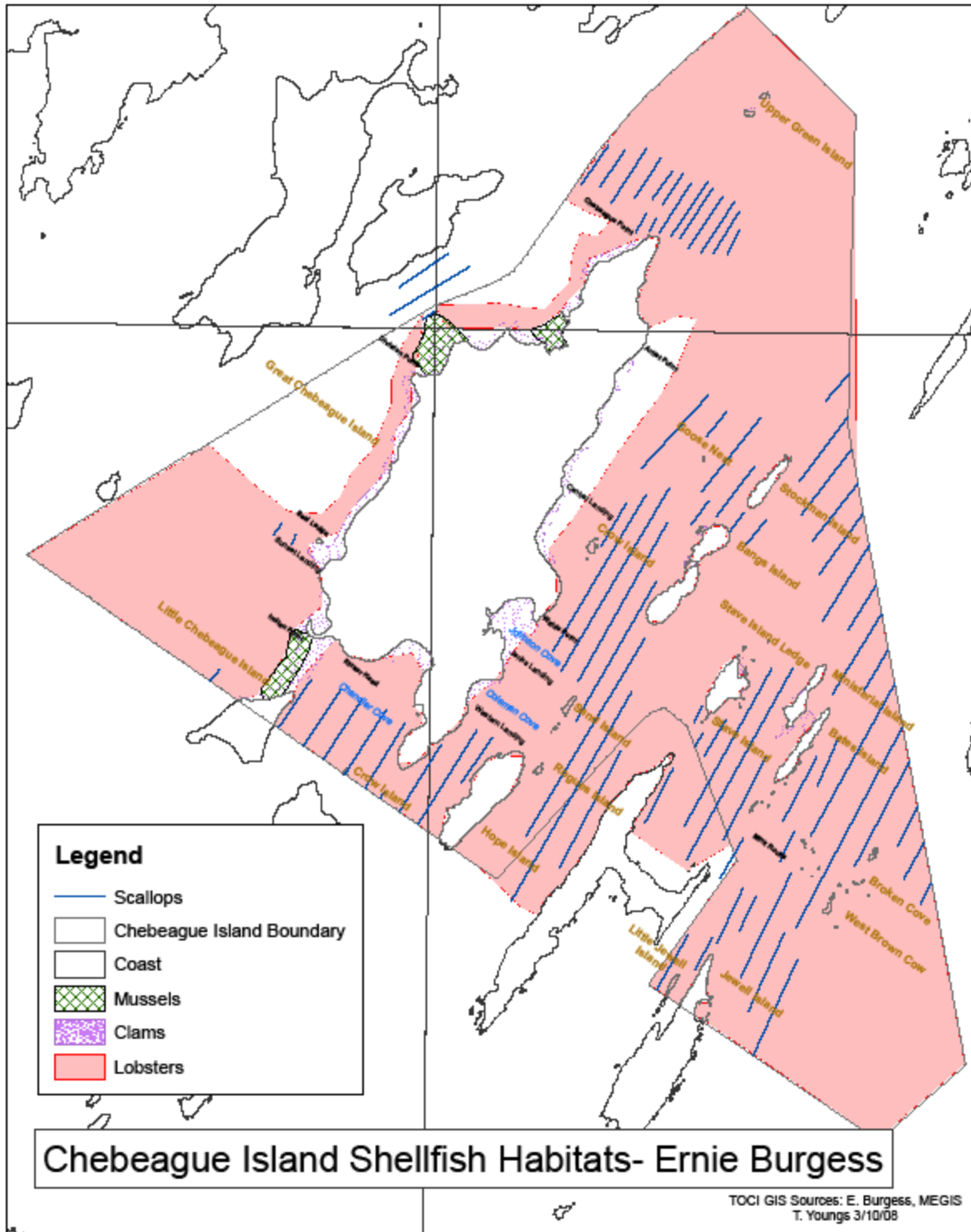
In addition, Ernie Burgess' map of Chebeague clam flats suggest that there may be more areas than Johnson Cove and the Little Chebeague Bar that have supported clams in the past and might be productive in the future. Assessing these flats and evaluating whether they would be suitable for enhancement of some kind could be the prelude to developing a larger-scale plan for deciding which areas are suitable for greater focus in the clam management program.

Aquaculture

None of the fishermen from Chebeague engage in aquaculture, though there is one mussel farm in TOCI waters. There has also been some exploration of small-scale leases for growing oysters in cages.

Lobstercatchers oppose the location of fish farms in Town waters for two inseparable reasons. They depend on fishing the bottom, which has always been a collective resource. Fish farms are granted leases to a certain amount of the bottom. This privatized the collective resource and deprives the lobstercatchers of access to that bottom.

One response to this situation is to have the fishers identify areas of the Town's waters, if there are any, that are not good for lobstering and that might be suitable for other shellfish farming. This would give the Town guidance in responding to applications for state shellfish farming leases in Town waters. Map 1 is the work of one experienced lobsterman. It suggests that there are few sizeable areas that are not good lobstering bottom. Any map used for regulatory purposes would have to have the agreement of the island's fishermen.



Map 1:

However, this strategy does not deal with the issue that the bottom should be a collective resource open to all fishermen. Another option that could be explored is the use of small rafts that are apparently allowed under a permit by rule rather than a lease, leaving the bottom in the public domain¹⁵.

Another issue raised about aquaculture is that it results in pollution of the water and of the bottom. This is an issue for fish farming. But mussels are filter feeders that normally occur in thick beds. Growing them on ropes does not involve adding food to the water, nor does it necessarily create higher densities than would naturally occur.

Transportation of People and Goods by Water

This topic will be dealt with primarily in the section on Transportation to the Mainland. However, there is some discussion below on wharves and barge landings.

Recreation

The availability of recreational clamming licenses suggests another major use of the Town's waters – recreation in the form of boating, swimming and fishing. The basis of the Town's attraction as a vacation destination is that all the islands are unconnected to the mainland and are located in one of the most temperate and scenic bays in the United States.

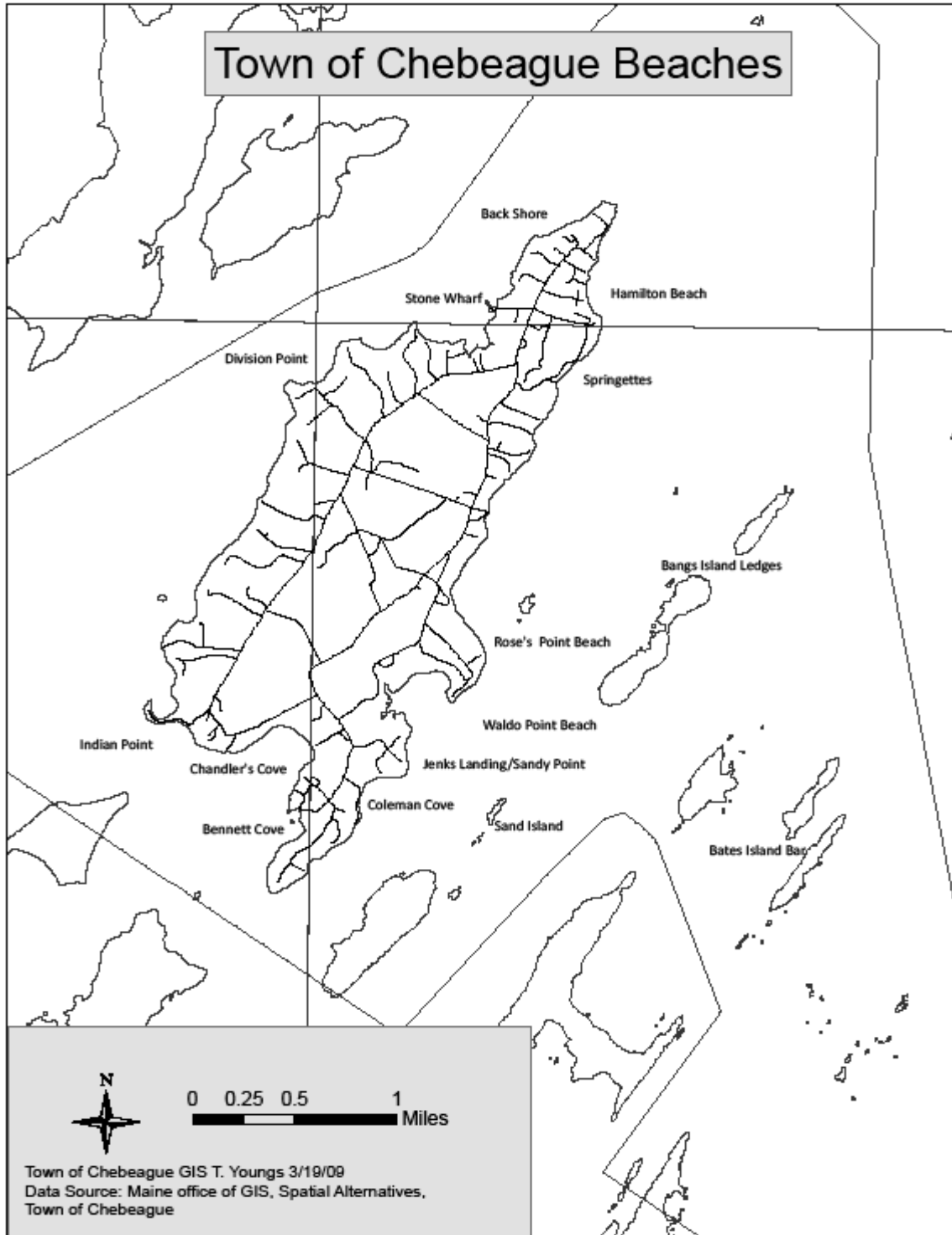
You have to cross the water in a ferry or private boat to get to them. Lobstering, that most quintessential of Maine industries, is a major activity on the water which is crowded with thousands of colorful buoys and many lobster boats hauling traps. The industry produces fresh lobsters for summer feasts.

Though the water is "bracing" people do swim from wharves and the islands' many pocket beaches such as Hamilton, Chandler's Cove and Indian Point beaches (Map 2). In addition to clamming, vacationers collect mussels and fish for stripers, mackerel and bluefish. In 2007, eight people had non-commercial lobstering licenses which allow them to tend up to six traps. And people can just sit on their own porch or the porch at the Chebeague Inn and enjoy the beautiful view out over the water.

Nationally, the past 50 years has seen an enormous growth in recreational boating since the baby boom became adults, though the rate of growth has fluctuated with the state of the national economy. Starting at 436,500 recreational boats sold in 1970 across the country, there were national spikes in the sales of new boats in 1974, 1988, 1995 and 2008, reaching a maximum of

¹⁵ "Mussels", *Fishermen's Voice*, July, 2000

Map 2:



912,000 boats sold in 2006¹⁶. The cumulative impact of these hundreds of thousands of boat sold each year can be seen in any coastal community including the Town of Chebeague Island.

“Messing about in boats” is widely practiced on the islands. Chebeague has a Yacht Club with organized races and a sailing school for children. In the summer the waters of the Town are dotted with pleasure boats from Chebeague’s own islands, from Portland, Falmouth, Yarmouth and other towns up the coast, and from other states and abroad.

The Chebeague Boat Yard is the local business that has most directly benefitted from this growth in recreational boating. It was started in the 1930s by Roy Hill, and purchased by Alden Brewer in 1960. It was incorporated as The Chebeague Island Boat Yard in 1971 as the growth spurt in boating was beginning. It now rents many recreational moorings and sets additional private moorings both at the Boatyard and in other coves around the island. In the winter it stores recreational boats from Chebeague and from close-by islands. But it is not alone. The Inn has eight moorings and serves passing yachts. Both current gift shops are located at wharves where they can serve people visiting by boat.

Issues Related to the Marine Economy

The major issue is sustaining a fishing industry that has only one major fishery – lobstering – that is done in summer and fall, and provides a perishable (soft-shelled lobsters) and expensive product.

Is there interest in having a Chebeague-specific list for lobster licenses?

Are Chebeague fishermen eligible for State current use program for marine shorefront?

Are there ways to market Chebeague lobsters more effectively?

Are there ways to add value to lobsters on the island?

Is there interest in increasing water-related tourism to/on Chebeague or its outer islands?

What facilities and policies would be required to do this?

Both recreation and lobstering occur primarily in the summer and into the fall. Do these jobs provide sufficient income for a year or do winter/spring jobs need to be developed?

Does shellfish aquaculture have any place in Chebeague’s fishery?

The Working Waterfront: The Shore Water Interface

The typical image of a working waterfront in Maine is one of a sheltered harbor with wharves for landing fish and docking ferries, maybe a boatyard or marina for commercial and pleasure boats. There is a town, or at least a settlement with marine supply businesses, old warehouses, perhaps a derelict cannery now used for shops and restaurants, all clustered around the harbor.

¹⁶ National Marine Manufacturers Association, *2007 Recreational Boating Statistical Abstract* (Chicago: NMMA 2008) table 5.1. This table includes motor, sail and house boats, personal watercraft, canoes, kayaks and inflatables.

The Town of Chebeague Island's many boats need the services of a working waterfront – facilities for launching, hauling docking and mooring boats, repairs, gasoline, fishing supplies and dealers to sell lobsters to. What kind of working waterfront does Chebeague have?

Chebeague's waterfront is not like the traditional image because it is spread out around the whole island. This is possible not only because the shoreline has many coves rather than a single excellent harbor, but also because the islands in the Town are in Casco Bay, sheltered by other islands further out in the Bay. In addition, much of the waterfront is used primarily in the summer when the threat of storm is less than in winter.

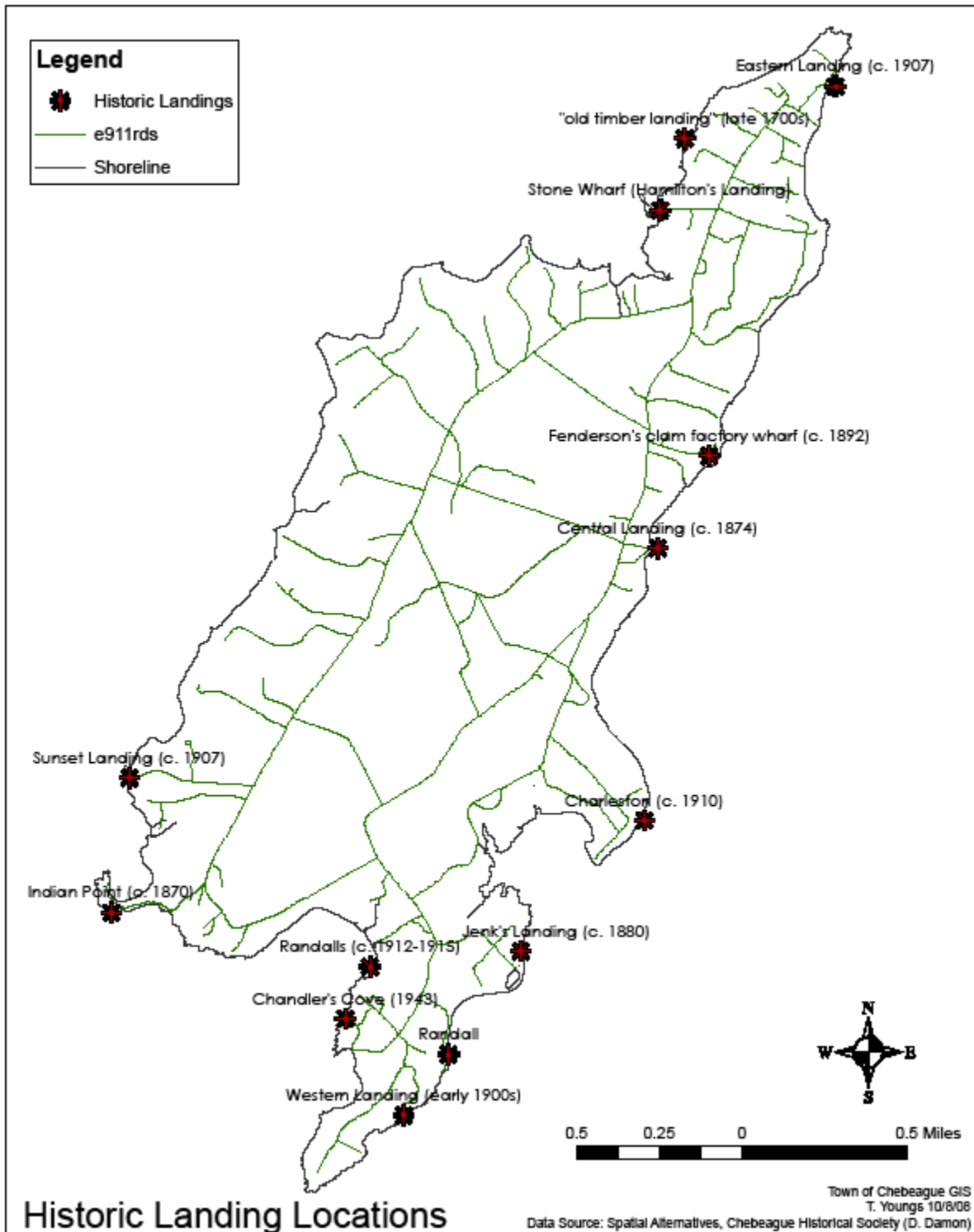
The pattern of many access points (Map 3) has also developed because Chebeague is located in the center of Casco Bay, with marine activities oriented out to sea, southwest to Portland and west and north to other towns such as Yarmouth, Freeport and Harpswell along the mainland coast. This pattern is an old one. Since the 18th century up to 13 wharves have served the island, located all around the shore, for commercial vessels, steamships and other boats. Before the automobile became the dominant form of transportation, Chebeague was served by five steamship wharves – Sunset, Western, Jenks, Central, and Eastern Landings – and additional ferry and commercial wharves such as the Stone Wharf, Cleaves Landing and the Fenderson Clam Factory Wharf. Some of these wharves were located in coves protected from the wind at least from some directions. Others, particularly the Casco Bay Line wharves on the outside of the island were located at particular subdivisions or hotels, regardless of whether there was a cove or not. Each generally had its own year-round or summer residential settlement, but with so many access points, no single dominant harbor or town developed.

The outer islands also had their own access points, especially if people lived on them. This remains true today, adding another level of decentralization. But in spite of this decentralization, these many ocean access points still make up a single waterfront.

Within this pattern of many access points to and from the water, the Town does have some areas where marine uses are particularly intensive. Some of these are places where there are wharves and/or boat ramps in addition to moorings; at others fishermen work off the beach.

When Shoreland Zoning was adopted by Cumberland, eight areas suitable for maritime uses because of winds, slope of the land, depth of water and availability of support facilities, were designated as Commercial Fishing/Maritime Activities Zones (listed in Table 1). These areas have zoning regulations that allow intensive commercial/marine land uses close to the water, and prohibit the construction of new residential uses that would be incompatible with these marine uses. At a minimum these areas might be considered to be the Town of Chebeague Island's "harbors" as distinct from its "waters".

Map 3:



Regulation of Town Waters

The Town's waters are governed by federal, state and local laws, while the shore is the responsibility of the State and the Town. The Army Corps of Engineers and the Coast Guard are primarily concerned with keeping waters safely navigable. Federal ownership begins at the three-mile line. From the three-mile line to the low tide line the state owns the bottom and regulates the waters. The Department of Marine Resources regulates fisheries. The Department of Environmental Protection is concerned with environmental issues such as water pollution. The Bureau of Public Lands is concerned with the use of the bottom. The Maine Coastal Management Policies Act lays out the State's concerns in relation to coastal waters, especially ports and harbors.

Maine's Ports and harbors are a limited and irreplaceable State resource uniquely capable of supporting fishing, waterborne transportation, water-based recreation, and other uses dependent on a shoreside location. Less than 10 percent of Maine's 3,500 miles of coastal shorelines is physically suitable to function as a port or harbor area. . . . Government agencies have a responsibility to assure that new or expanded activities in these areas will be compatible with, and will not degrade their current and future use as a port and harbor area.

Title 38 of Maine's Statutes provides the legal basis for local governments to manage local waters, particularly harbors. It enables them to appoint harbormasters (required in all coastal towns), to form Coastal Waters or Harbor Commissions to adopt policies related to the Town's waters, and to enforce local, state and federal laws related to the use of the waters.

The Town of Chebeague Island has a Coastal Waters Commission made up of five volunteers. Their policy role is to "study and evaluate public usage of and access to the Coastal Waters of the Town" and "to plan for the future use of those waters"¹⁷. They are expected to work with the Selectmen and supervise the Harbormaster's enforcement of the Town's rules and regulations. However, the TOCI Coastal Water Commission has been inactive for at least a year. Since it is important to the operation of the Town, it should be revived.

The TOCI Harbormaster's duties involve allocating and regulating moorings, defining anchorage areas and the transient channel for the Stone Wharf, managing the floats, docks, ramps and landings owned by the Town, patrolling the harbor to ensure compliance with State boating and marine resources laws and providing assistance in case of accidents.

Moorings

The simplest form of access to a boat in the water is to have a mooring that can be reached by punt from a beach or other landing place. This is the primary way that Chebeaguers get to their

¹⁷ William Prosser's legal guide for coastal officials has this to say about "the harbor committee": Typically, the harbor committee is made up of unpaid residents of the community appointed by the selectmen. In choosing the appointees, the intent of the selectmen is to assemble a volunteer body of men and women who are motivated by a disinterested concern – disinterested in the sense that no member has any axe to grind, and concerned with the successful present operation of the harbor and an appropriate pattern of future change. They tend to be the most knowledgeable "boat people" in the community, and in theory, at least, it is their understanding of the importance of having a good working harbor that makes them willing to serve without pay." (page 22).

boats. Overall, as Table 1 shows, the Town has more than 350 moorings – probably closer to 400. Forty four are for commercial vessels, about 5 are for fishing floats of various kinds, while the majority are for recreational boats.

With the exception of a sizeable number of fishermen who keep their boats at the Stone Wharf, most fishermen moor on the outside of the island facing the sea. They also usually go out from an area that is fairly close to where they live. Springettes, Fenderson Landing, Central Landing, Johnson Cove, Coleman and Black’s Coves along this shore are all used by fishermen. Over the

Table 1: Mooring Places around Great Chebeague Island

Place	# Fishing Boats 2000	# Fishing Boats 2008	# Pleasure Boats	Total number 2008
Hamilton Beach	0	0	17	17
Springettes	1	1	2	3
Fenderson Landing CFMA	3	2	0	2
Central Landing CFMA	7	5	12	17
The Boat Yard CFMA	?	1	101	102
Waldo Point	1	1	3	4
Johnson Cove	3	3	17	20
Coleman Cove CFMA	5	4	8	12
Black’s Cove	2	2	?	?
Bennett’s Cove CFMA	1	1	?	?
Chandler’s Cove CFMA	4	7	38	45
Indian Point Cove	0	0	?	?
Sunset to Division Point	1	0	23	23
Stone Wharf CFMA	17	17	64	81
Northeast End	0	0	8	8
Little Chebeague		1	0	1
Hope Island	0	0	0	0
Sand Island	0	0	2	2
Stave Island	0	0	?	?
Ministerial Island	0	0	1	1
Jewell Island	0	0	0	0
Total	45	45		about 400

past eight years the number of fishermen and where they moor their boats has not changed very much. The number at the Stone Wharf has remained constant and Chandler's cove has picked up three people (see Table 1).

Some other mooring areas are largely used by recreational boaters, many but not all of whom are summer people -- Hamilton Beach, the back shore and the Boatyard. This informal separation on Great Chebeague between recreational and commercial moorings probably reduces the possibility of conflicts between fishermen and recreational boaters.

Chandler's Cove and the Stone Wharf are used by both fishermen and recreational boaters and are discussed in more detail below.

In addition to these regular boat moorings, there are some specialized moorings for mussel rafts, rafts for fishermen's gear and rafts for buying lobsters and selling bait.

The Town has no policy about how many or where moorings can be. There is a provision in the law about creating a waiting list for any area where there is not enough space to assign a mooring, with a set of six priorities, in addition to location on the list, that favor commercial fishermen over everyone else, tax payers over non-taxpayers and residents over non-residents. However, to this point there has not been a need for a waiting list.

Chebeague does not have any U.S. Coast Guard designated special or general anchorages. Designating such areas means that boats that moor in them do not have to have visual and audio signals during the night or at time when visibility is poor. While the regulation for riding lights is not much enforced by the Coast Guard, damaging a boat on a mooring not in a Coast Guard anchorage and without lights creates liability problems.

Bottom leases and permits for moorings for commercial mussel rafts are issued by DMR through a process that involves notice to the Town and at least one public hearing. The Town has no formal power of approval but it can be an "intervenor" in the State process. In the Town of Chebeague the only mussel raft is at Bangs Island. This owner also proposed having a raft off of Hope Island but the Chebeague lobstercatchers organized to oppose the permit and it was not granted.

The conflict here is over access to the bottom. Mussel rafts may float on the surface and the mussel ropes themselves do not reach the bottom. But the mooring cables and the raft itself create an area where the lobstermen cannot access the bottom. As indicated in the section on aquaculture, they believe that the bottom should be a collective resource.

Issues Related to Moorings

What role does the Harbormaster play in relation to the outer islands, is there need there?
Are there other issues relative to moorings that should be raised?

Wharves

Whenever there is a substantial (not just an individual household) wharf, there is much more intense marine use. There are now only three wharves remaining of the earlier 13 – the Stone

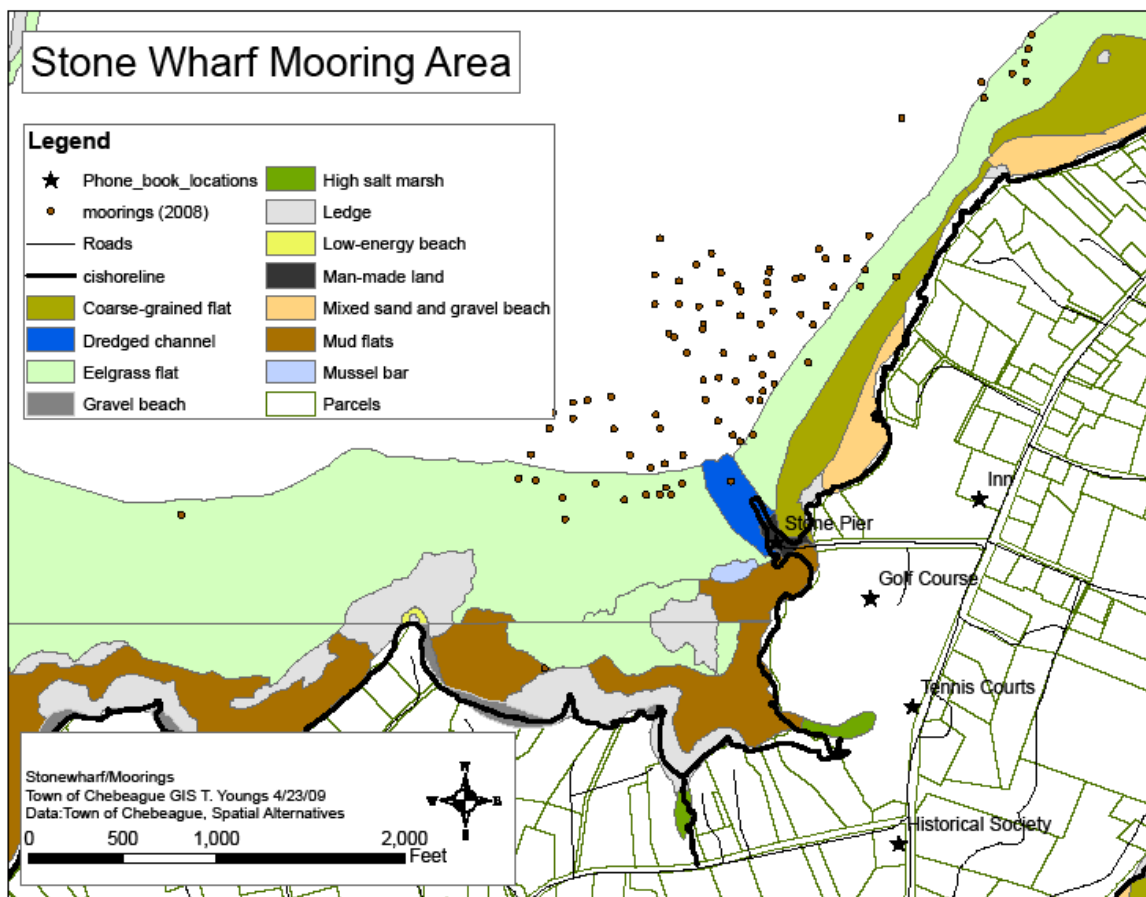
Wharf, the wharf at the Boat Yard and the State pier at Chandler’s Cove. Each one has a somewhat different character in terms of marine and land uses.

Unfortunately there is very little historical data about the use of these remaining wharves such as the numbers of boats moored or numbers of cars parked. So it is difficult to know anything about past or future trends except for a “general sense” of growth patterns.

The Stone Wharf

The Stone Wharf was built on the inner-Bay side of the island as a commercial wharf. It was acquired by the Town of Cumberland in the 1920s. For many years it served as the landing place

Map 4



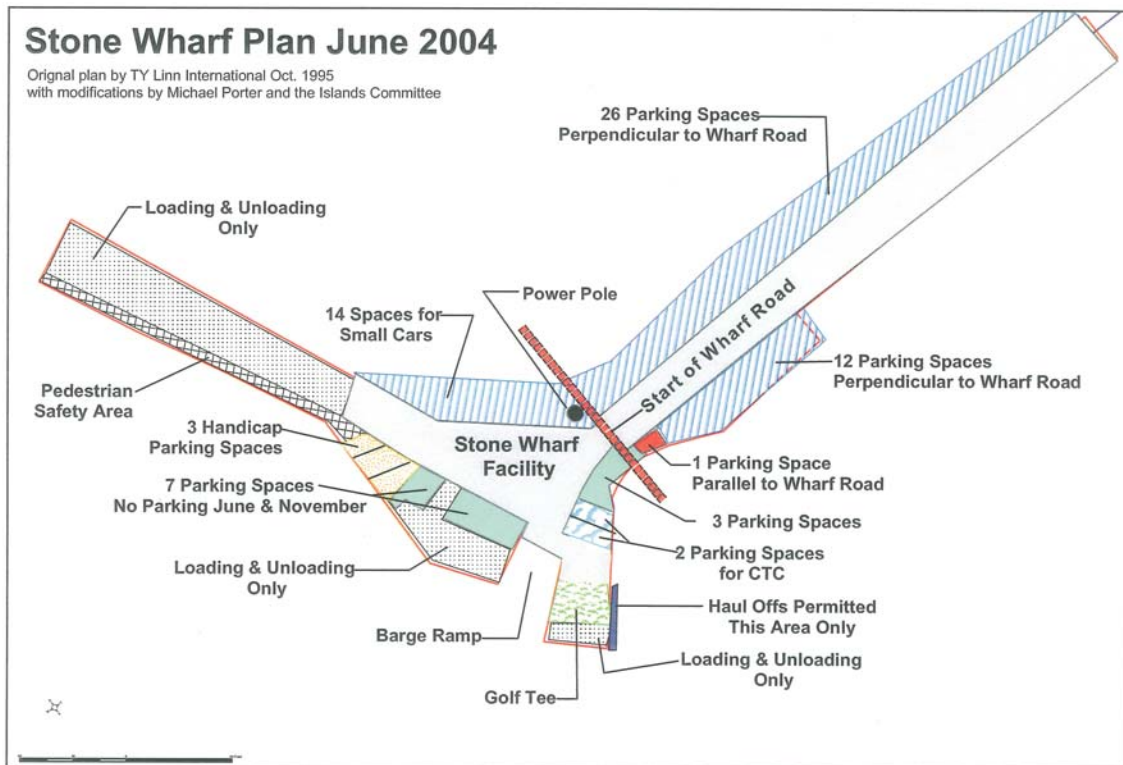
for the ferry, Nellie G, which ran from Falmouth Foreside. After the Cousins Island bridge was opened in 1956 and the Nellie G. ceased operations, the Stone wharf became the home terminus for the Polly Lin and then the Chebeague Transportation Company service to Cousins Island.

The Structure

It was built, as the name indicates, primarily out of large blocks of granite that essentially create a point of land sticking out into the water, with a beach on the east side and a shallow cove on the west.

This wharf has served well for 150 years but it needs regular maintenance to keep it structurally intact and the road on top of it useable. Most of the structure is basically a large box of dressed granite that was then filled with fill. The action of the tide surging through it and of winter frost-heave both tend to wash the filling out between the enclosing stones, leading to sinking of the pavement on top as its support is lost. The south side, at the barge ramp and golf tee was built on timber cribwork which has deteriorated over the years. Finally, the wharf could be built in this place in part because the surrounding water is not very deep. This means that for any large boat to use the wharf, the channel must be periodically dredged.

Map 5:



Attachment B

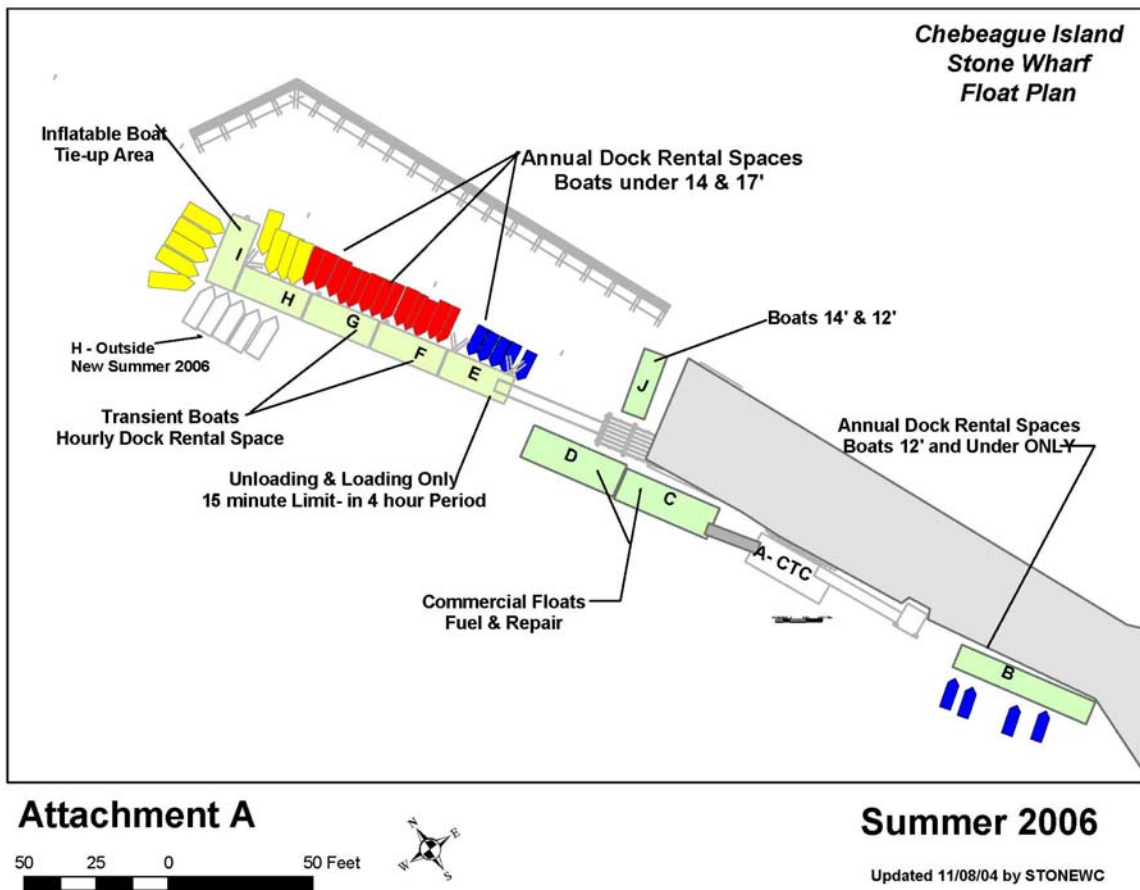
Since 1980 a series of Stone Wharf Committees, formed by the Town, have made recommendations on repairs that should be made to the wharf. In 1990 in response to the problem of sinkholes in the pavement, the fill was removed from a trench around the northernmost part of the wharf so that the stone “container” could be lined with filter fabric to keep the filling in. This was only moderately successful and more sinkholes appeared. Again in 2003

structural repairs were made, replacing lost stones, pumping sand and concrete in between the face stones and rebuilding the structure that holds the gangplank to the wharf. In 2009 repairs were made to the areas built on cribbing on the south side. But these various repairs have strengthened the fabric, but regular maintenance is always needed.

The channel was also dredged in 1994 and 2005. The permitting for the dredging can be an arduous process, but if the dredging were done each time within ten years, the State would consider this to be “maintenance” rather than dredging, with less strenuous permitting requirements.

Boats tying up to the Stone Wharf actually tie up to floats attached to the wharf (Map 6)

Map 6: Stone Wharf Float Plan



which go up and down with the substantial tides. The stone structure is not much higher than the water at high tide, and at spring tides and in storms that coincide with high tides, the wharf itself is covered with water.

The Uses – on the Water

This wharf is has many uses, though somewhat fewer than it had 20 years ago. It is the home terminus of the CTC ferry to Cousins Island which makes its 15 minute run about every two hours from 6:40 am into the evening. The CTC carries a large proportion of the island's traffic to the mainland including commuters in both directions, middle school and high school students, and many other people going to the mainland for errands or entertainment. CTC has its own float, with a gang-way down to it (see Map 6, Float A).

The ferry also serves as part of the island rescue service. Whenever there is an emergency call the ferry crew goes to the boat. The patient is brought to the wharf by the ambulance and is taken on the boat over to Cousins Island where they are met by an ambulance from Yarmouth.

The wharf also is used by many fishermen, some commuters who use their own boats to go to and from the island, and many pleasure boaters as an access point to the island and a place to leave small boats. Some of the floats are specifically designated for temporary tie-up by boats unloading or being worked on. Others are designated for small boats and punts, but in the past the number of boats trying to use these floats was often greater than their capacity so boats became hard to get to and banged into each other when there was any wind.

Part of the Stone Wharf repairs in 2003 involved adding a series of floats to the end of the Stone Wharf and a wave break on the east side of these floats to create a more sheltered mooring area for small boats and punts. The wave break structure does not seem to have been entirely successful, but it has created a mooring tie-up area that can accommodate about 37 boats under 17 feet long in addition to the boats that tie up at Float B on the other side of the Stone Wharf. These mooring spaces are rented by the Town.

As indicated, the water immediately off the Stone Wharf is not very deep at low tide. Out to about 200 yards off the wharf the water is less than about six feet deep except in the dredged channel. It is another 200 yards to an average depth of 12 feet. Out beyond the 6 foot depth, there are currently 81 moorings in the summer, divided into two groups on either side of the channel for the ferry and the barge. At least 17 of these moorings are for fishermen. Another eight are moorings for guests at the Inn and the rest are primarily recreational.

Besides being the home of the ferry/school and rescue boat, the Stone Wharf is used for launching boats and for barging by the CTC and private barging companies (discussed below). The island lobster pound is one of the floats at the wharf.

The small cove to the West of the wharf is used for mooring shallow-draft boats including, sometimes, the lobster pound float and the CTC barging push-boat.

Over the years, the various Stone Wharf Committee reports have recommended changes in the wharf itself, and its system of floats to better handle all these different uses. At this point all the recommendations of the 2002 report have been carried out. The Town Coastal Waters Commission is responsible for considering what other improvements may be needed for the wharf.

The Uses – on the Land

On the land side of the wharf there is parking, a single historic house with an art gallery, the golf course, whose 7th tee is on the wharf right next to the barge ramp, and at the top of the hill above the golf course, the Chebeague Inn, an old-fashioned summer hotel dating to the 1920s. The golf course, in turn, is surrounded by single-family houses. Other than the art gallery, there are no shops, offices, restaurants, warehouses or other “village” land uses at the wharf.

The major problem at the Stone Wharf, aside from its maintenance, has been the very constricted space available for traffic movement and parking. Even though the school children are brought to the ferry by the school bus, and some people are dropped off, the centrality of the CTC ferry in the island’s life creates a substantial need for parking on the wharf and up Wharf Road, especially in the summer. In June and November many lobstercatchers put in and take out their traps from the Wharf and parking is even more restricted. The ambulance and the school bus



Floats A, C and D on the west side of the Stone Wharf on a midsummer day

wait for the ferry on the wharf, as do the taxi and the cars of people picking up ferry passengers. In summer the Inn has an electric jitney that they send down for guests. When barging is occurring, vehicles to be barged or ones coming off the barge are waiting or being driven around. There is no set traffic pattern for cars leaving passengers off for the ferry or coming down to collect luggage and groceries. People who have boats moored off the wharf drive down or walk

through, as do people buying lobsters or playing off the 7th tee. Though there are many times when the wharf is deserted and peaceful, or, in winter, raked by a bitter wind, in the high summer all of these activities often take place at the same time. There are not actually many accidents, but this, in itself is quite surprising. Until about 1990 there were also oil storage tanks and a small restaurant on the wharf as well. These were removed in the interest of reducing the traffic that came to the wharf.

The parking is both on the wharf and on Wharf Road as it goes through the golf course. Starting in 1980 there were a variety of proposals to increase the amount of parking. The first proposal was to fill the cove on the east side of the wharf to create a 40-space parking lot. This created a furor and was not done. In 1985 the Town created filled land at the level of Wharf Road on both the north and south sides of the road, creating about 25 spaces in addition to the 14 or so on the wharf itself. The 1988 Stone Wharf Committee report recommended removing all the parking off the wharf itself, creating a circular traffic pattern on the wharf to make the traffic pattern safer. The lost spaces would be replaced by buying property from the owners of the old house and/or the Golf Club and building a 20 to 35 car parking lot next to Wharf Road. This proposal was also controversial and was not carried out. A more modest proposal to reorganize the parking on the Wharf was made in 1995 and was carried out. The 2002 Stone Wharf Committee ended their work with their recommendations for structural repairs to the wharf, and did not address the parking issues as they had intended. Then in 2007 a proposal was made to extend the perpendicular parking up the north side of Wharf Road in front of the old house. The owners of the house objected and in 2008 the Town extended the parking up the road about 10 - 12 spaces, for a total parking capacity currently of about 80 space. In addition cars are allowed to park on the south shoulder of Wharf Road. This parking, which is used when all the other spaces are full, runs up through the Golf Course and sometimes accommodates as many as 25 to 30 more cars, for a total of about 110 spaces.

A less noticed issue at the Stone Wharf is the potential for pollution running into Casco Bay. The golf course includes two grassy hills that slope down to the water. The short grass of a golf course is nearly as impervious to water as pavement, and a large volume of water flows down these hills, picking up pesticides and herbicides if they are used on the course. It also runs down the road and through the parking lot, picking up gas and oil that drips out of the island's old cars. It then flows into a drain in the road and down a drainage ditch, across rip-rap and onto the beach.

Issues:

Maintenance of the wharf.

Parking. A detailed discussion of this issue is given in the Inventory on Transportation to the Mainland.

Many competing uses.

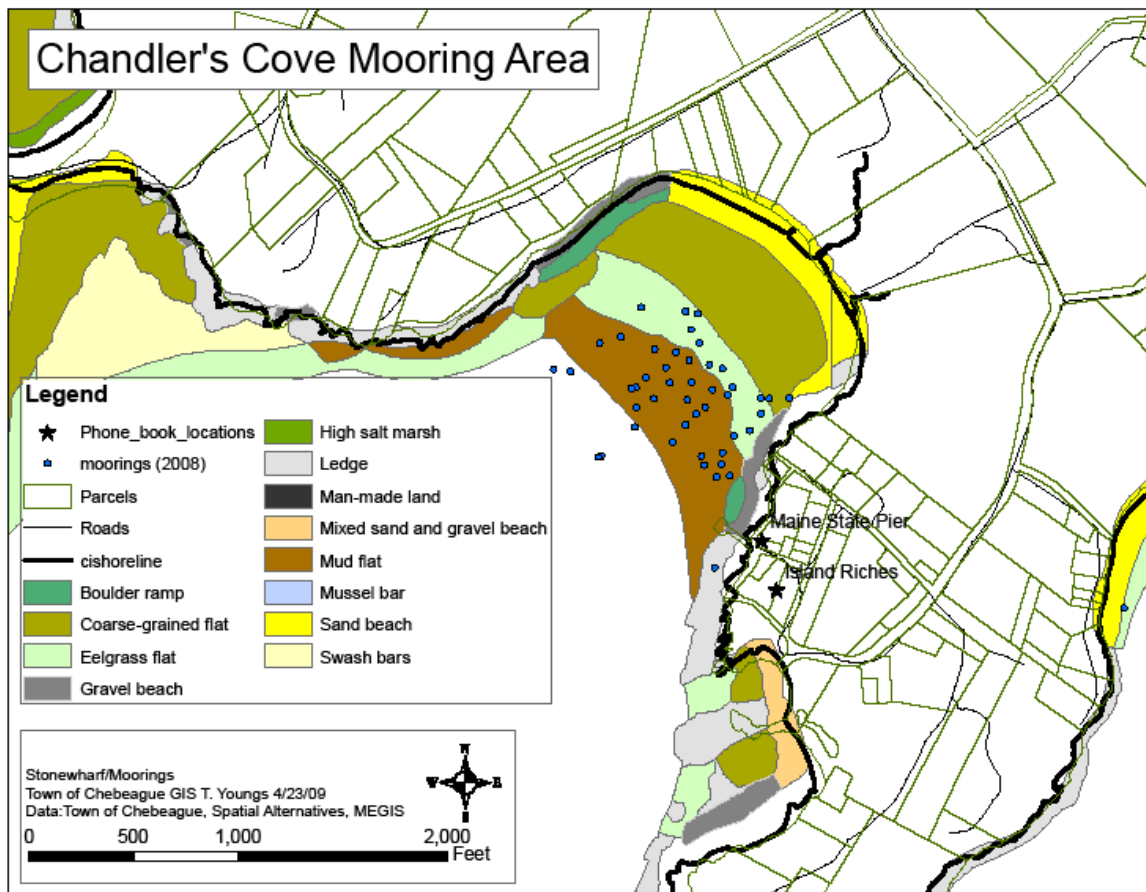
Drainage into the Bay.

Chandler's Cove

“Chandler's Cove” is a general area which here is used to discuss three rather separate waterfront uses. One is the State Pier at the end of Casco Bay Landing Road. Another is the beach further into the cove. And the third is Bennett Cove which is further out along Deer Point.

Up to World War II Chandler's Cove had one wharf – Randall's Wharf. When the anti-submarine net was placed between the islands and the wharves on the outside of Chebeague were outside of it, the Army paid for the Town to build a new wharf in Chandler's Cove for the Casco Bay Lines which had used those wharves and provided the only year-round service from Chebeague to the mainland. In the 1950s, as the CBL slid toward bankruptcy, the State was forced to take over and repair its neglected wharves. The Chandler's Cove Pier has belonged to the State since then and has been rebuilt several times, the most recently in 2000. The new pier is considerable larger than the one it replaced and the parking area was significantly enlarged and modernized.

Map 7:



This wharf has a different set of topographical constraints and mixed uses from the Stone Wharf, and they are on a more manageable scale. It takes off from a fairly steep hill in the middle of a small settlement of year-round and summer houses, with one gift shop.. The water is deep. The

Casco Bay Line ferries sail up to the end of the wharf where there is a ramp that allows passengers and freight to debark at any tide. CBL has four ferries a day in the winter and five in the summer.¹⁸ In addition to Great Chebeague, they go to Cliff and Long Islands as well the Diamonds on their way into Portland. Since Portland is no longer the dominant regional destination it was 50 years ago, and the trip takes more than an hour, only a few people from Chebeague use the CBL on any given day. However CBL delivers both the mail and much of the freight that comes to the island – items too large to bring on the CTC, but not so large that they have to come by barge – appliances, mattresses, UPS and FedEx packages, and banana boxes of food from grocery stores in Portland.

The pier is served by a 17-space parking lot up the hill from the wharf that was improved by the State when the pier was most recently rebuilt. There are two handicapped spaces and one regular space in front of a waiting shed right at the head of the wharf itself. This lot provides sufficient parking at present for the ferry, the fishermen and CMP which keeps a mooring at the pier. There is little space in this fairly densely populated hamlet for expansion in the future, but it does not appear that ridership on the Casco Bay Lines is likely to increase dramatically. The number of fishermen using the wharf has grown from 4 to 7 since 2000 and might continue to rise.

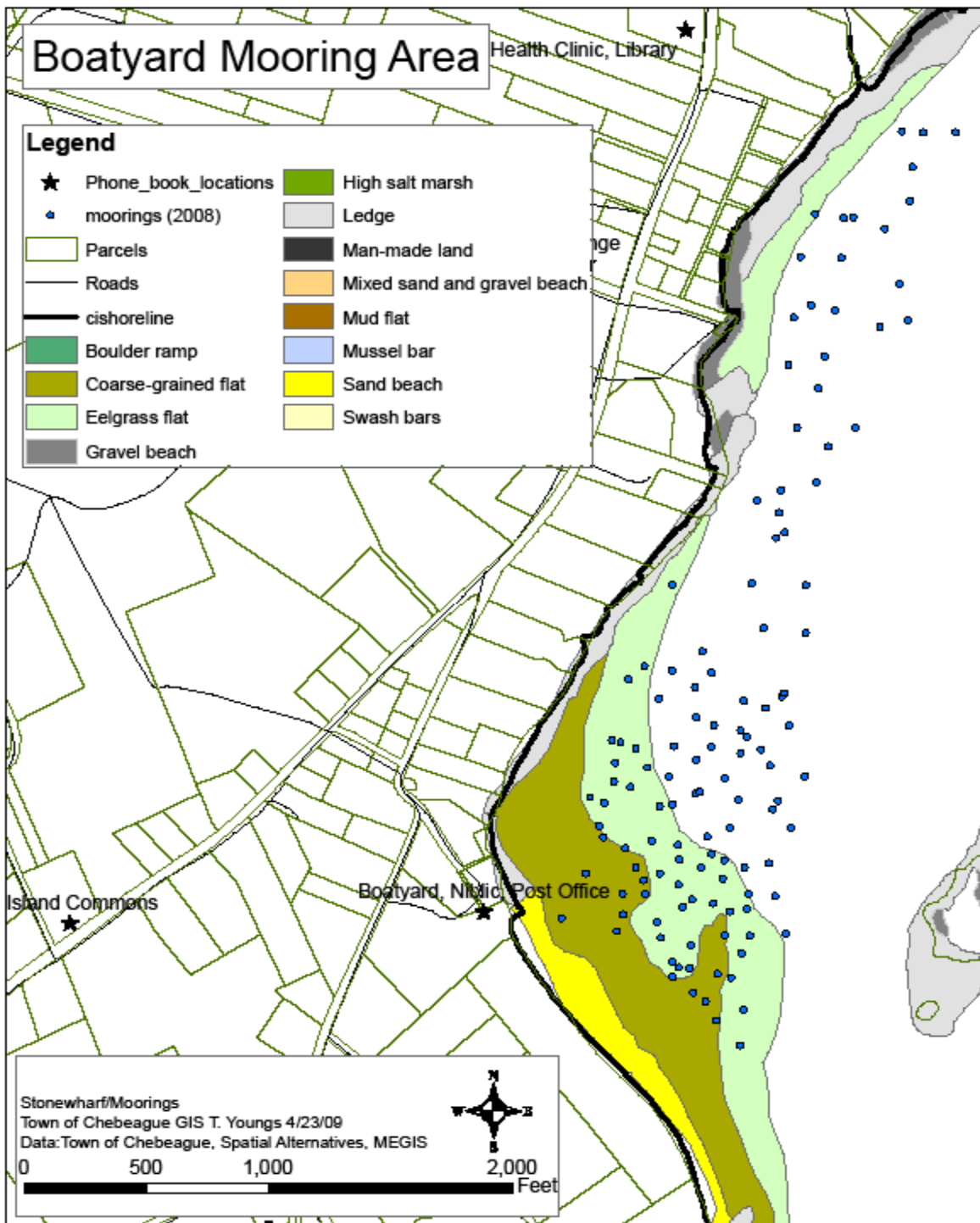
People who come down to the Pier to pick up freight generally drive down the pier to the end where CBL leaves everything.

The State pier also has one float (made up of three float-segments) that belong to the Town and are used by lobster boats, pleasure boats and the boats used by the CMP and telephone company crews who serves the island.

The 45 moorings are mostly further into Chandler's Cove from the State Pier. At the head of the cove is a large sand beach that shelves off very gradually, part of which is owned by the Town and constitutes the largest and most attractive area of Town-owned open space. There are several streams that come down to the beach, a small coastal wetland and a very old cemetery that is protected by a conservation easement. Behind the beach there is an open, sandy field surrounded by woods. Except for the access road, the area has no facilities. Its attractiveness lies in its natural state.

The beach and the field behind it have been popular areas for summer partying including bonfires fed with old lobster traps and drift wood, and troubled with underage drinking. Trash, including the remains of the burned traps were thrown into the woods behind the field. In 2003 the various "stakeholders" in the beach and field were brought together to develop rules for use of the area. Once these were adopted, Cumberland cleaned up the woods and field, regraded the road and planted grass in the field. There was also a suggestion that the Town should develop a management plan for the ongoing conservation and maintenance of the area.

¹⁸ There are four ferries a day on weekends and an extra ferry on Friday evenings in the summer.



Map 7

Bennett Cove, south of Chandler’s Cove, has a beach that is used for barging from Portland, discussed below. It is also used by several lobstercatchers for putting in boats and gear and has

two moorings. Its gravel beaches are the only place on Chebeague that have been identified as nursery habitat for baby lobsters.

Issues

Maintenance and conservation of Chandler's Cove field and beach.

Baby lobster habitat protection at Bennett Cove.

The Chebeague Boat Yard

The Boatyard is a private business. It has a wharf with three floats, about 100 moorings in the summer primarily for recreational boats, and boat storage and repair facilities on the land. Many fishermen store their boats there in the winter, as do many summer people. It provides launching and hauling of boats, maintenance, some repairs and fuel for boats. The shore slopes off rather gradually from the beach. This means that the moorings start about 400 feet from the shore.

In 2006 the previous owner retired and a younger owner and his partner took over. At the time of the turnover the soil was tested for pollutants that might have come from work on or painting of boats. It was found to have no pollution problems.

The boatyard buildings sit close to the water at the bottom of a sloping field where boats are stored in the winter. The soil is sandy and the slope is covered primarily in grass, with a gravel road down to the buildings. Like the Golf Course, this configuration encourages surface water runoff, though what reaches the bottom is largely absorbed by the sand beach. Even so, the sediment and oil/gas drips from cars that the stormwater accumulates can be a problem.

In 2007 the new owners added a sizeable, for Chebeague, commercial building that houses the Boat Yard office, the Post Office and a gift shop. In 2009 they got permission to replace the existing boat shed with a modern, winterized one of about the same size. They have also replaced some sheds. Altogether, about ten people work in these three businesses.

The Boat Yard is also the only gas station on the island for cars, and is the only provider of winter heating oil. The fuel oil is kept in tanker trucks and the storage tank for the gasoline was recently replaced with an above-ground tank set on a platform with sides in order to contain any spills.

A five-space gravel parking area, including a handicapped space, is available for the Post Office and gift shop in front of that building. There are three spaces for the Post Office on the side. And there are six parking spaces for employees and people using their boats further up the hill. Generally parking is not a major issue because the major demand for it is in the summer when the boats that are stored in the field in the winter are mostly in the water.

Finally, the Boat Yard provides winter storage for floats from private wharves. It has moorings for rent and puts out private moorings as well. Customers keep dinghies on out-hauls on the beach or pull their punts up on the beach. In the summer the Chebeague Yacht Club's Sailing School keeps its boats on the beach and runs its classes from there. In winter the boatyard field is filled with lobster and pleasure boats in storage. In February the beach is also used for the

Recreation Center's fundraising Polar Plunge. All this makes the Boat Yard an important element of the island's marine economy as well as its social life.

Issues

The survival of boatyard is essential to both fishing and summer economies: This shore-front land would be extremely valuable for housing or other commercial uses. Only a commitment by the owners and a successful business strategy will enable it to remain a boatyard. It is eligible for the State's recently adopted current use taxation for marine uses on the shore.

Growth in moorings: The great growth in recreational boat ownership in recent years means that mooring space for boats anywhere is becoming scarce. The Chebeague Boat Yard, under its new management, is attracting more customers. And there is some concern on Chebeague that a shortage of moorings in mainland marinas may encourage some people from the mainland to consider keeping their boat on Chebeague.

Pollution: The recent construction has subjected the Boat Yard to reviews by a variety of State agencies and by the Cumberland and Chebeague CEOs and Planning Boards which have identified and dealt with the possible pollution problems this use might create. However, the simply flow of water down the hill may add silt to the Bay.

Private Piers

Finally, in 2008 there were eight piers around Great Chebeague belonging to private individuals. Most of these have been built since 2000 as part of the island's recent building boom. Indeed, the rash of new wharves produced concerns about the possibility of a pier for every waterfront lot. This concern, in turn, encouraged the Town of Cumberland to revise the process for reviewing these wharves. Now in addition to a hearing by the Planning Board, the proposal must have a hearing before the Coastal Waters Commission which makes its recommendation to the Planning Board. The Town's Zoning Ordinance also now encourages but does not require people who want recreational wharves to build common rather than individual ones. However, so far, this has not been done.

More powerful than the Town's revised review process for private piers, however, is DEP's review under the Natural Resources Protection Act. The problems of habitat degradation produced by this same boom in the construction of piers prompted DEP to reconsider what projects would qualify for the simplest review: the permit by rule. Now any new pier or enlargement of an existing pier must go through the full NRPA review process. This seems likely to reduce the number of applications for private piers in the future.

Barge Landings

In addition to wharves, Great Chebeague also has two public barge landing areas, one at the Stone Wharf and the other at Bennett's Cove. The former is most easily served from Yarmouth and the latter, from Portland.

Both have probably seen increases in traffic over the past 20 years particularly when the national economy has been strong and Chebeague has had lots of construction. In addition, in mid-1990s the old dump was closed, requiring all trash to be taken off the island by barge in huge containers. There was a lot of discussion with the Town in 1992 and 93 about not allowing the containers to

be barged off from Bennett's Cove. Cumberland only agreed "informally" to try to use the Stone Wharf.

The Stone Wharf

Barging by the CTC makes up the majority of the trips to the ramp at the Stone Wharf. The CTC push-boat and barge carries trucks containing everything from house insulation to pianos, as well as many cars for year-round and summer people – as many as 1,000 vehicles a year.

Since it barges from the "Pogy Shore" on Cousins Island, and from the Royal River the location of the ramp on the Stone Wharf is very efficient. However, the ramp contributes to the general congestion of vehicles on the wharf. Because the barges have to operate when the tides are right, activity tends to be concentrated rather than spread out in time.

This barging is constrained by the legal settlement with the residents of Cousins Island. Barging is only done between April and November (in recent years actually May to November) from 7am to 5pm on weekdays. During the high summer only ten round trips are allowed each week. In the spring and fall this number goes up to 12 trips. The size of the barge is limited and ten-wheeled vehicles are only allowed on six trips per year.

In about a third of the 46 months that they barged between 2003 and 2008, CTC made more than 30 trips, which begins to approach the maximum of 40 to 48. Theoretically, there is room for some future growth in the number of barge trips. However, empirically, the largest numbers of yearly trips (214 and 210) took place in 2003 and 2004. After that there was a gradual decline to 130 trips in 2008. This suggests that the use of the ramp by CTC is not growing generally, but only when the economy and construction are booming.

The containers of trash from the Transfer Station are also taken off at the Stone Wharf sometimes. However, Lionel Plante charges \$600 per load from the Stone Wharf and only \$500 from Bennett Cove so this may now be done primarily from Bennett Cove.

Bennett Cove

Barging at Bennett Cove provides greater flexibility than the Stone Wharf to people who want to bring material onto the island. It is convenient for commercial barges coming up from Portland. There are no court-ordered restrictions on the amount of barging, and it can be done throughout the winter. Unlike the ramp at the Stone Wharf which is concrete, the barges at Bennett's Cove simply come up onto the beach which slopes fairly gradually and so can accommodate barges over a longer period at the high tide. It can also handle larger barges than the Stone Wharf.

There is no data for the growth in barging at Bennett Cove over time, but in 2004 Sanford Doughty whose windows look out on the Cove, recorded all the barge landings for a ten month period (except mid-March through May), for days when he was at home, giving a minimum estimate of the traffic that year. Barges from Lionel Plante, Reliance, and PU barged on 100 of the 217 week days, making 135 landings, about the same number that CTC made to the Stone Wharf in 2008. Most days saw only one trip, but on 26 days there was more than one, and even as many as 4 or 5. Sanford counted 47 dump trucks as well as concrete mixers, flat-bed and

boom trucks for lumber, moving vans, bucket trucks and tree-cutting equipment, propane trucks and trucks hauling the dumpsters for the Transfer Station.

This level of barging in this location creates several problems. The surrounding land use is all residential, and the increased use and the industrial character of the barge-landing has created considerable unhappiness in the area. The heavy traffic has been hard on the gravel road up to South Road which was substantially rebuilt by the Town of Cumberland after all the barging of road-building materials to repair the island's roads in the wake of the Patriots Day storm in 2007.

The barging also affects the beach itself. The power of the propellers holding the barge to the shore churns a large hole into the substrate, exposing a CMP power cable that comes onto the island in the same place. In addition, Bennett Cove is the only place on Chebeague that has been identified as suitable habitat for baby lobsters, and they seem to be attracted to the rocks in the hole created by the propellers.

One possible alternative to both of these barging sites would be to consolidate the barging at Sunset Landing. It is accessible both from Cousins Island and Portland. A more detailed discussion of this possibility will be found in the inventory on Transportation to the Mainland.

Coastal Access

Both fishermen and vacationers need to be able to get to their moorings. Beyond that, a vacation destination surrounded by water, without access to the water for walking, sunbathing, building sand castles, having picnics and even swimming, is a frustrating experience. People with houses on the shore often have direct access, though in some parts of the island there are bluffs or the shore is not particularly hospitable. Some people, fishermen, for example, make individual arrangements with coastal property owners to use their shore. And under ordinances going back to Maine's Colonial past, there is a right to access the shore over someone else's property for the purposes of fishing, fowling and navigation. On Chebeague the Town of Cumberland stood legally behind this right of access. It has not been a significant issue yet for the Town of Chebeague Island.

For everyone else, getting to the shore requires public points of access. Because of its particular history of decentralized access to boats, there are strong values that support easy access to the shore. On Great Chebeague there were no public roads at all until after the Civil War when the Town began to build some. Before that there were cart roads and paths that were used by everyone regardless of whose land they crossed. Even after Cumberland reluctantly built the initial roads, this tradition of free access to all parts of the island including the shore, continued.

Now, however, this value is under pressure and it has become more important to insure access rights to the water. There are more houses and more people, particularly on the shore. People move to the island from places where keeping others off your property is accepted as a basic right. It is not unheard of for property owners to block an existing access to the shore, sometimes one which is actually a public access.

Map 8



This attitude and the action of blocking public access seems to be supported by a famous Maine Supreme Court case from Moody Beach, which upheld the right of landowners to exclude others from their beach. However, Moody Beach provides this right only if the owner owns the land all the way to the low tide line, and if the people wanting access are not fishing, fowling or navigating.

On Chebeague ownership rights in the shore take many forms – ownership to the top of the bank, to the high tide line or to the low tide line, for example. Often the nature of the ownership has been obscured over the years by changes in deeds, and careful research is necessary to determine legal title. In the face of these pressures, since the 1980s, the State, and the Towns of Cumberland and Chebeague Island have adopted the strategy of researching property ownership of rights in the shore and of formalizing the legal status of access points that belong to the Town. For example, rights of way and shore access points that had been granted to the Town in old (and not so old) subdivisions but forgotten since have been reclaimed through the research and work of Donna Damon. The Town and the Chebeague and Cumberland Land Trust have also been active in acquiring access points or easements to them from willing property owners.

Map 8 shows access points on the shore that have been legally documented as public since 1980, whether through public ownership or easement. In the Island Institute’s study of coastal access in all coastal communities in Maine, *Mapping Maine’s Working Waterfront*, Chebeague ranked high in the number of public access points. Given the effort to keep alive the Chebeague value of free access to the shore, others will probably be added in the future.

The Town has done no work on the issue of visual access to the water, though it is an important issue.

Issues Related to Coastal Access

What additional access points need Town research?

How much parking makes sense? Should it be formalized?

Should the Town work on visual access to the water as well as physical access?

Coastal Land Use

The actual use of most of Town’s shoreland, including the outer islands is residential or protected open space. The zoning does not provide a very good indication of the actual use, since very little of the area zoned for commercial uses is actually used for traditional “commercial” uses. However, the Commercial Fisheries/Maritime Activities Zone does reflect past, current or possible future, more intensive maritime use of these areas of the shore.

Since all of the area along the coast is in the Shoreland Zone, it is governed by regulations set by State law. One issue identified in the Open Space Inventory is that there are areas of coastal marsh-land and of steep slopes that, by State criteria should be in the Resource Protection Zone, but have never been so designated.

Of the approximately 209 lots along the shore, 173 or 83 percent are occupied by houses. Of these houses 125 or 72 percent belong to summer residents. The only “commercial” uses on the shore are the Golf Course, the Boat Yard, and the two public wharves. Two significant parcels

are currently open space owned by the Town (Chandler's Cove Beach and Sunset Landing). Thirty lots are still vacant. But several of these, as well as several that have houses on them are protected by conservation easements (Rose Point, Deer Point, the Higgins Farm and Indian Point).

Since a fisherman's "business" is based at his house, this residential pattern did not and does not preclude maritime uses. However, as property values along the shore have risen in the past 20 years, some fishermen have moved away from the shore to other parts of the island or off the island altogether. Coleman Cove is an example. It was still enough of a fishing community in 1990 to have been zoned completely for commercial fisheries and maritime activities. Now it includes a stretch of land in conservation easement and only one fishing family among its home owners. On the other hand, the cove is still used for mooring four fishing boats and the road down to the beach is still actively used by fishermen to put off and take in their gear. The road was protected as an access point when the Higgins Farm was placed in conservation easement.

The only business-only building on the water is the Boatyard. It may be Chebeague's only truly water dependent, commercial marine use other than the two public wharves. Other uses that might be considered water dependent such as boat building, welding repairs, storage of fishing gear and buying of lobsters and selling of bait are not done from land on the shore. The former depend on water access from public wharves or beaches accessible by truck. The latter are conducted from rafts or smacks on the water itself.

The current shoreland pattern works fairly well as long as adequate access to the shore from wharves, beaches and other areas is maintained, and there are no major changes in the nature of the Town's fishing. If the fishermen decided to go into fish processing, large-scale storage of lobsters or some other venture that would be somewhat like the earlier Fenderson Clam Factory with a wharf and sizeable buildings, finding space on the water would be difficult. If a site could be found in one of the commercial fishing and maritime activities zones in the shoreland zone, the zoning would probably be adequate for such a use. If such a facility were located out of the shoreland zone, appropriate commercial or industrial zoning would be needed.

The one notable property along the shore that could become a new maritime use is the Sunset Landing property. Because of the multiple, somewhat conflicting uses and the scarcity of parking space at the Stone Wharf, this land was bought by the Town of Cumberland in 1989 as a possible alternative site for a wharf on the inside of the island. This possibility is discussed more in the inventory on transportation to the mainland.

Issues Related to Coastal Land Use

What areas on the coast should be in the Resource Protection Zone either by State criteria or by Town policy?

Are modifications needed in the Shoreland Zoning?

Is there a need for zoning suitable for fish processing?

Harbor or Town Waters Management Plan

The State, and even the Army Corps of Engineers see the increasing land values on the coast and the multiple pressures for space both on the water and on the shore from fishers, recreational boaters, housing developers and people who would like to preserve open space. They hope that communities like the Town of Chebeague Island will develop plans for their waters and harbors. But there is no legal obligation for a town to do so.

The Town of Chebeague Island has no overall harbor or Town waters plan. Its Coastal Waters Ordinance, developed out of Cumberland's ordinances during the Transition, is primarily regulatory. It brings together the regulations for the use of the Stone Wharf, the approval process for new wharves, the mooring regulations, the rules for the operation of vessels in Town waters and the shellfish conservation regulations.

One of the primary tasks laid out in that ordinance for the Coastal Waters Commission is to plan for the future use of the Town's waters. A plan that could gain the acceptance of Town Meeting would be a useful contribution to shaping the future of the Town's marine economy.

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Transportation

Like Maine's other unconnected islands, Chebeague is unusual in having no road connection to any other town, no through traffic, no state roads, and a multi-modal trip (car, passenger ferry, bus, and car) for any trip to the mainland.

The Town does have some of the same transportation concerns that communities on the mainland have: the condition of the roads which is generally poor, traffic speed, safety of pedestrians and bicyclists, parking in areas where multiple land uses create congestion, the length and cost of the commute to work, whether it would make sense to have public bus transportation. But these issues often take somewhat unusual forms because the Town is made up of islands unconnected to the mainland.

Roads maintenance is a difficult issue for the island. Like many Maine communities they are "unbuilt" meaning that the base of the road was built long before current road standards existed. Unlike most other communities, however, any substantial work on Chebeague's roads requires bring machinery and materials from the mainland. This is expensive and means that in the past, regular maintenance was minimal. Now the new Town has to figure out how to deal financially and logistically with the large backlog of work. In addition to these basic problems, the island now has no gravel pit and, since we have a single source aquifer, opening a new one can have a significant impact on our only water source.

Finally, of course, one of the things that makes Chebeague unusual is that it depends on two passenger ferries for transportation of people and goods to and from the mainland. One is run by a Transit District, with a Board made up of representatives of the islands served. The other is a private, stockholder-owned company in which most of the stockholders are island people. Bulky goods that come and go in trucks are carried by a variety of private barging companies. So, while the Town is responsible for maintaining the roads and one of the wharves, it does not run the ferries or barges.

Passenger ferries require automobile parking at each terminus. Parking on the mainland for the Chebeague Transportation Company, which has been a major issue for islanders for many years, has now been resolved at least for the moment. But the issue of adequate ferry parking on the island has not.

These two inventories cover many of the issues related to island transportation. More information on wharves is found in the Inventory of the Marine Economy; and a brief discussion of island trails is found in the Open Space Inventory.

Road Inventory

Chebeague is unusual, though like other unconnected islands, in having no road connection to any other town, no through traffic, no state roads and a multi-modal trip (car, passenger ferry, for many, bus, and car) for any trip to the mainland. Great Chebeague is also large enough that walking, biking and golf carts, especially in the winter, are not adequate modes of local transportation in the 21st century. So virtually all households have at least one car on the island and one on the mainland. The island has a well-developed system of 15 miles of fairly narrow, rural, public roads. This inventory is concerned particularly with the nature, condition and safety of those roads for pedestrians, bike riders and drivers.

The issues related to alternatives to automobiles on the island, the trip to the mainland, and the impact of this transportation system on the mainland is discussed in the section on Ferries. The only area where there are congestion problems on Chebeague is at the Stone Wharf. This is discussed in the Working Waterfront Chapter.

There are two significant issues in relation to the Town's roads that this Plan can raise and frame but cannot make definitive recommendations on because they require additional community discussion.

One is what kind of roads the community wants to have in the future. Now the roads are fairly narrow and are shared by cars, pedestrians and bicycles. Should some or all be wider? Should there be provision for bikes and pedestrians in separate lanes? Should they be paved, gravel or some combination, as at present? Should private roads be similar to public ones?

A second issue is what to do about gravel for road and other infrastructure construction. In the past the island has had several gravel pits but at present has little gravel that comes from the island. Gravel mining uses up gravel that forms the island's aquifer recharge areas. Can we have both gravel and adequate, unpolluted water? See Water Resources section.

Survey Responses on Roads

The survey asked an open-ended question about what kind of Town infrastructure in general they wanted to see in the future. Generation of alternative power, especially wind-power, better internet service and better cell phone service were on many people's minds.

But among what might be thought of as routine Town facilities and infrastructure, the highest priority was for road repairs (19 percent or 44 people). Not surprisingly 25 percent of year-round people who see the roads deteriorate in the winter cared about this, but 15 percent of summer people did as well.

Most of the island's roads are deplorable, one of the biggest frustrations I had with Cumberland governance. I would like to think that our existing tax base can support a meaningful re-paving effort.

They were not naïve about the cost; many mentioned it as likely to be significant:

The roads need to be upgraded - can we afford to do this?

And there were a few contrarians who argued for leaving the roads as they are.

I think the Island infrastructure is excellent for what the Island is. If you build better roads, there will be more speeding and a good bump in the road builds character. What you currently have is very special.

These answers are about as specific as anyone got. So before the Town makes any assumptions about what “upgrading” roads means, they need to ask residents in more detail. Is it just repaving or is it something more? This plan lays out a variety of issues that residents can think about in relation to the roads in addition to the worrisome issue of how much upgrading will cost.

The Road Network

Fifty years ago, in 1958, Great Chebeague had 12.5 miles of roads. Of these 4.24 miles were paved including most of South Road, all of Firehouse Road and half of School House Road. A road sufficiency report that year by engineers Wright and Pierce recommended a ten-year, \$90,000 road construction program for the island, almost equivalent to the \$95,000 program for the mainland. Several sections of North Road were recommended for reconstruction and many roads were recommended to be widened and paved. They noted problems with ditches and drainage and suggested various surface treatments for gravel roads. Even then they noted that “Many people fail to realize the important fact that there is a good deal of traffic on the Island”. A traffic count on South Road in August indicated the passage of over 300 vehicles in a typical eight hour period.

Map 1 shows all of Chebeague’s roads as they are defined for the 911 emergency response system. This includes not only public roads but any private road that has houses on it. Table 1 lists whether roads are public or private and Map 2 shows this. Today Great Chebeague has Chebeague’s 15 miles of public roads. Of these 10.8 miles are paved, leaving only 4.1 miles of gravel crossroads and roads down to the water.

These roads make up a fairly efficient network for moving around the island and getting easily from one place to another. For a rural area there is good “interconnectivity” meaning that you can get fairly easily from one end of the island to the other and across it in between. There are many small dead-end roads, but they are generally the smallest, local roads leading down to houses near or on the shore.

The narrowness of the roads, often with woods on both sides, and the relatively low traffic volumes reduce the effect of habitat fragmentation for wildlife that roads normally create.

Map 1: Network of 911 Roads

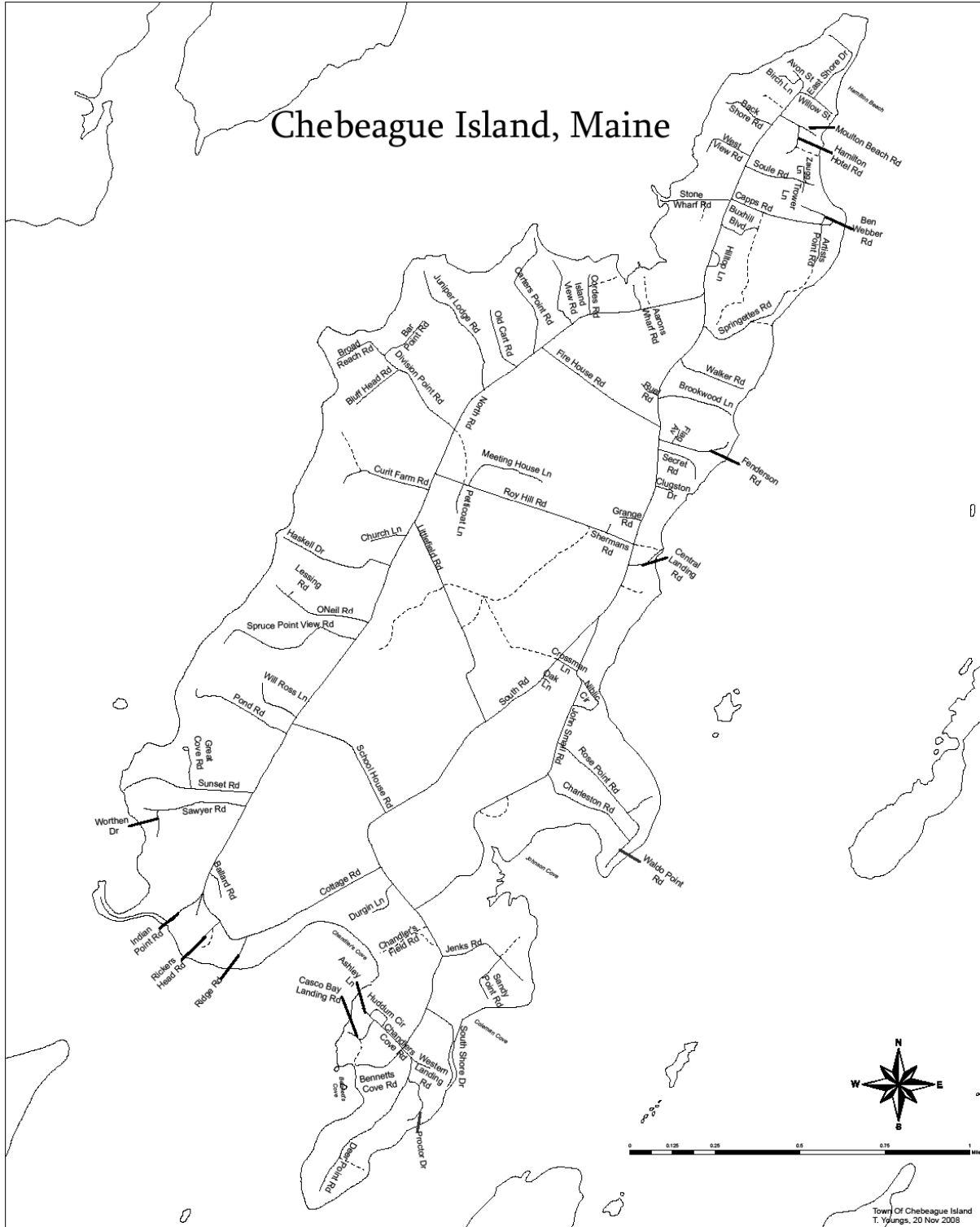


Table 1: TOWN OF CHEBEAGUE ISLAND ROADS

Name	Ownership	Width	Paved Ft.	Gravel Ft.	Class
Aaron's Wharf Road					Res
Artist Point Road					Res
Ashley Lane					Res
Avon Street					Res
Back Shore Road					Res
Ballard Road					Res
Bar Point Road	Town	20 feet	825		Res
Ben Webber Road					Res
Bennett's Cove Road	Town			898	Main
Birch Lane					Res
Bluff Head Road					Res
Broad Reach Road					Res
Brookwood Lane					Res
Buxhill Boulevard					Res
Capps Road	Town	17.5 feet		695	Res
Carter's Point Road					Res
Casco Bay Landing Road	Town	19	739.2		Main
Central Landing Road					Res
Chandler's Cove Road	Town	19	633.6		Main
Chandler's Field Road	Town			x	Res
Charleston Road	Private Easement	12		1750	Res
Church Lane					Res
Clugston Drive					Res
Cordes Road	Town			792	Res
Cottage Road	Town	18	3,696		Cross
Crossman Lane					Res
Curit Farm Road					Res
Deer Point Road					Res
Division Point Road	Town	20	1,900		Cross
Durgin Lane					Res
East Shore Drive	Town		1,531		Res
Fenderson Road	Town	14	215	788.2	Res
Firehouse Road	Town	19	2,165		Cross
Flag Avenue					Res
Grange Road					Res
Great Cove Road					Res
Hamilton Hotel Road					Res
Haskell Drive					Res
Hill Top Lane					Res
Huddum Circle					Res
Indian Point Road	Town			1,690	Res

Island View Road					Res
Jenks Road	Town			1,742	Res
John Small Road	Town	19	5.940		Main
Juniper Lodge Road					Res
Landfill Road	Town	19	305		Main
Lessing Road					Res
Littlefield Road	Town	13		3,379	Cross
Meeting House Lane					Res
Moulton Beach Road					Res
North Road	Town	21	13,250		Main
Niblic Circle					Res
Oak Lane					Res
Old Cart Road	Town	21	1,005		Res
O'Neill Road					Res
Petticoat Lane					Res
Pond Road					Res
Proctor Drive					Res
Ricker's Head Road					Res
Ridge Road					Res
Rose Point Road	Town			2,059	Res
Roy Hill Road	Town			3,432	Cross
Ruel Road					Res
Sandy Point Road					Res
Sawyer Road					Res
School House Road	Town	20	2,170		Cross
Secret Road					Res
Sherman's Road					Res
Soule Road	Town			1,214	Res
South Road	Town	20	18,075		Main
South Shore Drive	Town			1,425	Res
Springettes Road					Res
Spruce Point View Road					Res
Sunset Road					Res
Trower Lane					Res
Waldo Point Road	Town			580	Res
Walker Road					Res
Western Landing Road					Res
Wharf Road	Town	22	1.385		Main
Will Ross Lane					Res
Willow Street	Town			264	Res
Worthen Drive					Res
Zaugg Lane					Res

Any sizeable new subdivision that would require a new access road and new local roads, like Division Point and Division Shores, would add to the network. This is one reason why it is important to have standards for the various kinds of roads discussed below. There may not be many subdivisions, but any that are proposed should have roads that are adequately built and not over-sized for the island.

Traffic

The Town Clerk says that there were 350-400 vehicles in island use in 2008. This includes both vehicles used year-round and those owned by summer residents. If there were one vehicle for each house on the island, there would be 468 vehicles. Since many households own more than one island car/truck, this suggests that there are still summer houses that have no island car.

Construction workers and summer visitors often barge cars and trucks over from the mainland for limited periods of time. In the summer there may be as many as 600 vehicles on the island at any given time. It is not clear whether this is an increase over the estimate of vehicles made in 2000. If increasing numbers of owners of summer houses keep a car on the island, then the number of cars barged over might decline.

Vehicles include not only cars and trucks of various sizes, but also golf carts and several other small, electric vehicles including the Inn's jitney. Chebeague does not license bicycles, so there is no count of how many of them there are; but there are many. In addition, some very large trucks, such as oil tank trucks, dump trucks, the schoolbus and the fire engines, live on the island. Others are barged over from the mainland and driven on Chebeague's roads. These include the trucks for hauling the dumpsters to and from the Transfer Station, various construction vehicles including cement mixers, and the truck for pumping out septic systems.

It is difficult to know how these estimates of vehicle numbers relate to actual traffic on different roads at different times of the day or year. This might be data worth collecting, and could be compared to the 1958 baseline.

Where is the heaviest traffic? Traffic can be looked at in terms of volume and also in terms of weight. 20 cars per day may not be a lot with respect to road maintenance but 1 cement truck per month might be. There are also a few predictable routes and areas that will receive higher volumes and heavier traffic:

Bennetts Cove – This landing is used by the barge to bring the solid waste hauling vehicles as well as construction related vehicles on a regular basis.

The Solid Waste Route - The route from Bennetts - South Road – School House – North Road – Transfer Station Access Road could reasonably be considered a route used more than any others on the island for heavy traffic. Solid Waste hauling in the summer can occur twice a week, and is probably twice a month in the winter. This route currently has some of the worst paving conditions and also some of the better paving conditions on the island. The transfer station access road and adjacent area of North Road get extra traffic from residents dropping off at that facility.

Boat Yard (John Small Road) – Given new development at the Boat Yard, including the Niblic and the Post Office, this area of John Small has seen increased traffic. The oil delivery trucks are currently kept at the Boat Yard, and while heavy vehicles may not be the major concern, traffic volume may be. The paving conditions on John Small are now some of the worst.

The Center (South Road) – The Store, Library, and Hall also naturally attract more traffic volume than other areas.

The Public Works Building (Littlefield Ave.) – The public works facility has heavy vehicles traveling to and from it on a regular basis.

The Wharf Road – Has a high volume of traffic. CTC barging operations there frequently bring moderately large trucks, and sometimes larger barges bring the Transfer Station vehicles in at the Stone Wharf.

Road Classification

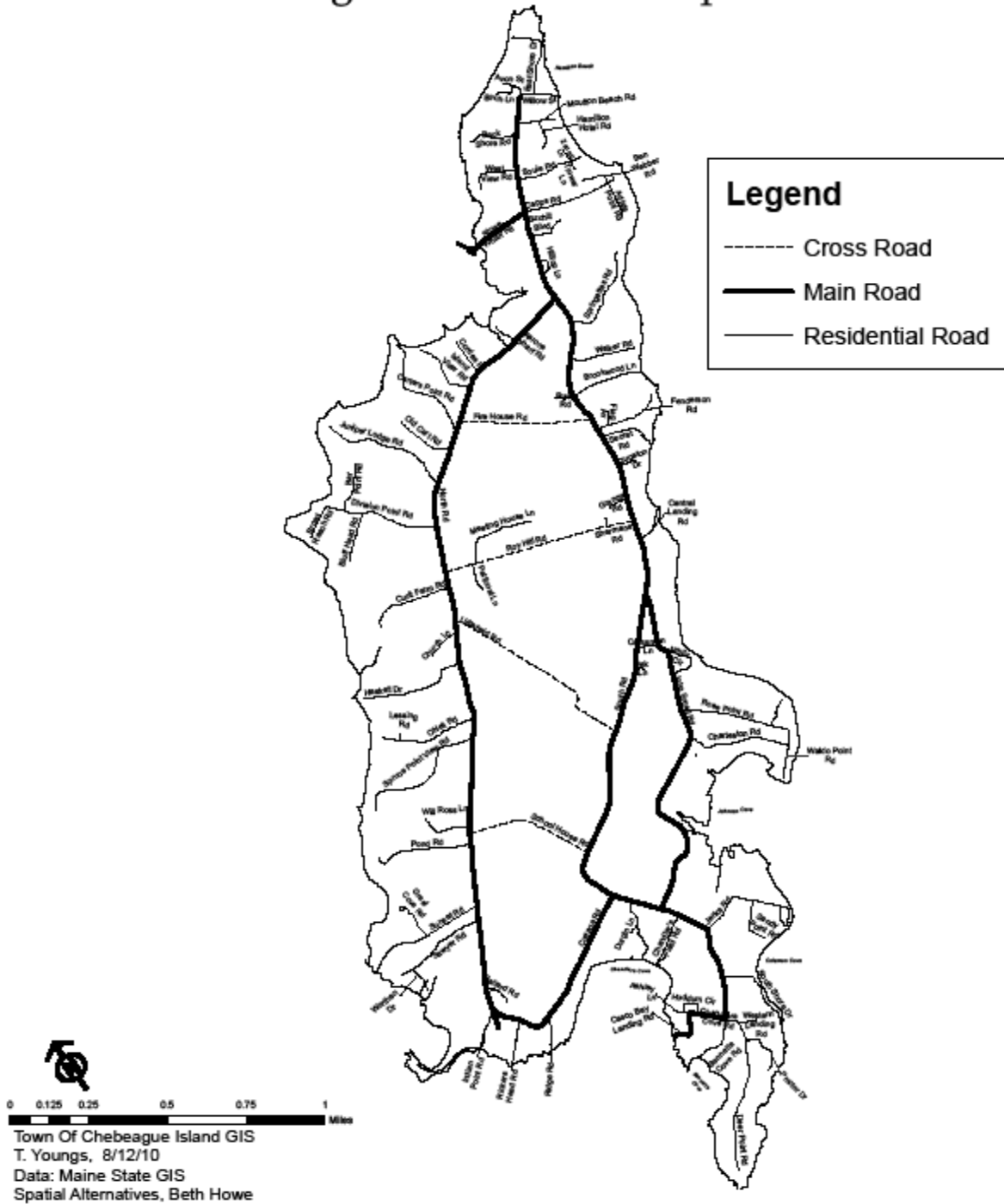
There are two rather different ways to classify roads. One is by their ownership. Are they publicly or privately owned? The other is by the purpose they serve in moving traffic. Do they carry a lot of traffic or only a little? These two classifications are interrelated in that larger roads are generally publicly owned while very small roads, especially in a place like Chebeague, are often private.

The state classifies all roads along a continuum related to purpose. At one end are roads that are primarily supposed to move large volumes of traffic efficiently and quickly for relatively long distances. These are “arterial highways”. At the other end of the spectrum are roads that are primarily designed to provide access to local destinations like houses or businesses to relatively small numbers of cars. These are “local roads”. The former are high-speed roads, the latter have low speed limits. In the context of state road planning, all of the roads on Chebeague would be local roads.

Typically rights of way on Chebeague are either 2 rods (33 feet) or 3 rods (49.5 feet). But for people on the island there are probably three types of roads. “Main” roads like North, South and Wharf Roads are somewhat wider – about 20 feet of pavement-- carry more traffic, further. They are paved and have intersections with other roads. “Cross” roads like Firehouse or School House Roads are shorter, somewhat narrower – about 18 feet but sometimes less, don’t have intersections and carry less traffic. Both main and crossroads carry enough traffic to be “public” rather than “private” roads, and are owned and maintained by the Town. Some carry enough traffic to be paved.

The third kind of roads, “residential” roads, are the smallest and carry the least amount of traffic, taking a few people to a small number of houses, or occasionally just down to a beach. Most go

Town of Chebeague Road Ownership



down to the shore from main roads. Almost all are narrower and unpaved. Some are public roads, but many are private driveways. Since 2003 such roads have been built under section 425.1 of the Zoning Ordinance:

Private streets meeting the following standards, as determined by the Code Enforcement Officer, may be used to satisfy the lot frontage requirement for residential uses.

- A. In the IR and IB zones, an applicant shall submit to the Code Enforcement Officer an application for a private right-of-way required to provide access to a structure located within that zone. The application shall specify the location of the proposed right-of-way, the proposed width, the materials to be utilized in the construction of the road, grades, provisions for drainage, and sight distances at any turning radius. The Code Enforcement Officer shall approve any plan that makes adequate provision for these items, provided that the Fire Chief approves the application for sufficiency of access for emergency vehicles.

Most of Chebeague's private roads predate 2003.

Map 2 shows main roads, crossroads and residential roads on Chebeague. These designations involve some judgment. For example, Cottage Road is classified here as a main road since it is part of the primary loop of roads around the island. But in terms of traffic and width it may really be more like a crossroad.

Road Standards

What difference does it make that there are three kinds/sizes of island roads? It is important to understand what exists so that we can decide and define what kind of roads we want in the future. This is usually done by having "road standards" – minimum standards for the construction of new roads of different sizes and purposes.

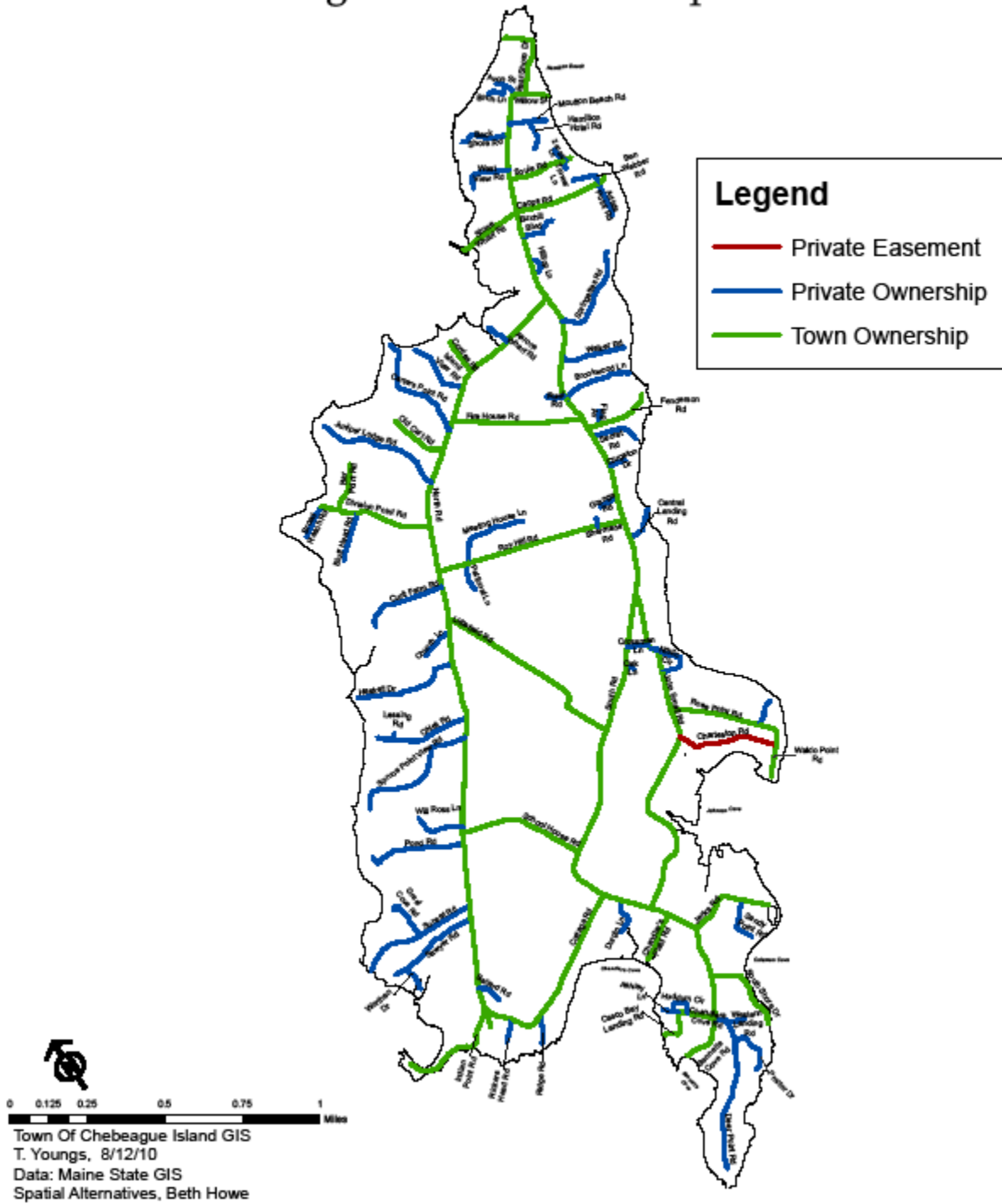
In reality, the system of "main" roads on Chebeague is probably complete, though some reconstruction might take place for which standards might be needed. But any new subdivision like Division Point/Division Shores would probably require a "crossroad" like access road and several residential roads. Without road standards the Town would be unable to control the size or structural adequacy of these roads. If they became part of the Town-owned system of roads, as Division Point and Bar Point Roads have, this would be particularly important since it would be more costly for the Town to maintain inadequately designed roads.

In some cases road standards can be very specific. The street design standards in the Cumberland Subdivision Ordinance that we are using now, runs to 14 pages covering the design and construction standards for six classifications of streets. In other cases, like section 425.1 of the Zoning Ordinance standards may lay out only general guidelines.

In addition, some standards lean toward large, straight streets that carry traffic "efficiently", or "urban" ones with paved shoulders, curbs, gutters, underground stormwater systems and sidewalks. Others may allow for smaller, more curved streets that make traffic go more slowly, or "rural" ones with open ditches for stormwater, gravel shoulders and no sidewalks. Currently Chebeague's roads are definitely of the latter two types. But the Cumberland standards that actually govern us now are somewhat closer to the former, requiring that the minimum size for a public road ROW be 50 feet, with an asphalt pavement width of 20 feet, and 4 foot shoulders on each side. Now that Chebeague is an independent town and has begun to focus on improving its

Map 3:

Town of Chebeague Road Ownership



Public and Private Roads

road maintenance, these mainland expectations about road standards, still written into our ordinances, can be revised so that they reflect the expectations of island residents.

As Map 3 shows, the main and crossroads on Chebeague are all public – the Town fills their potholes, digs out their drainage ditches, maintains their culverts and plows them in the winter. Some “residential” roads are maintained and plowed by the Town, at least sometimes because they serve “a significant” number of year-round houses. But there is no set standard for how many year-round houses there must be for this to happen. Many other “residential” roads on Chebeague are not owned, maintained or plowed by the Town. When they are built, they are presently reviewed under section 425.1 of the Zoning Ordinance quoted above which results in significant differences between public and private roads. The residents of Deer Point Road did petition the Town of Cumberland to take over and maintain/improve the road because of the number of year-round residents on the road. But the Town refused because the road did not meet even the minimal standards for a public road on Chebeague, and of the cost involved in improving it would have been substantial.

Here the traditional difference in standards between public and private roads on Chebeague accentuated the difference in treatment between roads with similar numbers of year-round residents.

Vinalhaven and Islesboro have separate but not very different standards for both public rights of way and private ones, but neither makes any distinction between “main” and “residential” roads. These and other ordinances could be sources for idea if The Town of Chebeague Island decides to adopt road standards.

As Vinalhaven’s Subdivision Ordinance says that its standards for both public and private roads “are subject to the overriding requirement that safe and convenient emergency vehicle access to all lots shall be provided and maintained.” Exactly how that is arrived at should be a matter for public discussion.

Road Management

Chebeague’s Town Administrator is also its Road Commissioner. He is the person who plans and organizes the day to day maintenance of the roads by the Public Works crew. He is also the person who talks to members of the public about their complaints and suggestions.

Drainage easements: Because the Chebeague is the “island of many springs” there are small, and sometimes quite large, drainage areas that direct water that must be conducted under public and private roads in culverts or along the roads in drainage ditches. Ultimately much of this water reaches the Bay. At all points along its journey it can cause erosion. The Town has never been very active in acquiring rights to drainage easements, but it may make sense to identify and prioritize areas where public drainage easements would make maintenance easier. This would be a task for the Road Commissioner.

He would also be the person to post the weight limits of the roads in the spring. However The Town of Chebeague Island has no ordinance that allows this to be done.

The primary role of the Board of Selectmen is to work with the Town Administrator to develop the capital improvement plan and the capital budget that funds the road work. It is also their responsibility to either recommend ordinances related to roads to Town Meeting or, in some cases to adopt them themselves.

Road Basics

Figure 1 is a figure provided on the Maine Local Roads Center website and depicts a well constructed road. The essential elements are: the road's base, its drainage and its surface. Getting all three elements to work together in all weathers and under all traffic conditions is essential for successful maintenance.

Road Base - The road base, as with most foundations, is a critical element. Water in the road base will soften the whole structure and freeze-thaw cycles will do their worst. Cobbles and stones in the road base may eventually work their way to the surface. Culverts and other structures in road beds can respond differently to freeze-thaw cycles causing bumps or dips.

Drainage – It comes as no great surprise that an island named after its abundant surface water has an acute need for drainage when it comes to roads. There are 70 culverts in 10 miles of road bed underlying the paved roads of the island. Getting the water under the road is only part of the battle; ultimately most of it is headed for Casco Bay, one way or another. Working with private landowners is critical to getting water from the top of the island to the Bay without impacting the road network. However, the Town has relatively few drainage easements on private land. In the past several years Public Works has spent a significant portion of their time maintaining and improving the ditches along the roads and replacing culverts. This work is a necessary precursor to any road reconstruction projects.

In addition, over time, sand and other debris can build up on the road shoulder and cause runoff to pond on the surface or travel into unintended places. A part of any maintenance plan is grooming of the shoulder to allow water to run off the road surface and into the ditch.

Road Surface – Chebeague has both paved and gravel roads (Map 4). Paving comes in many forms and the technology and application techniques are always evolving. A ride on South Road from one end to the other provides a perspective on the variations of paving on the island.

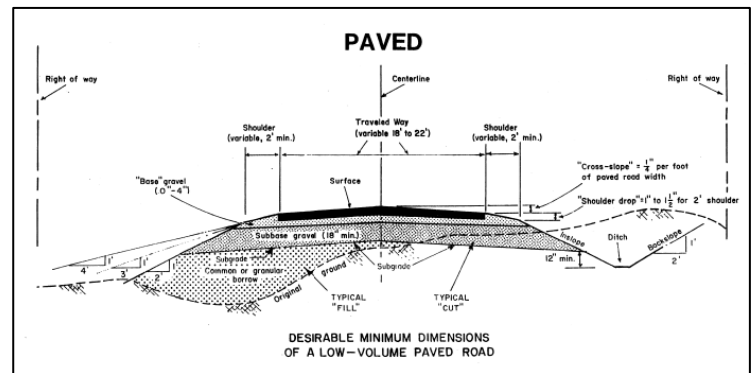
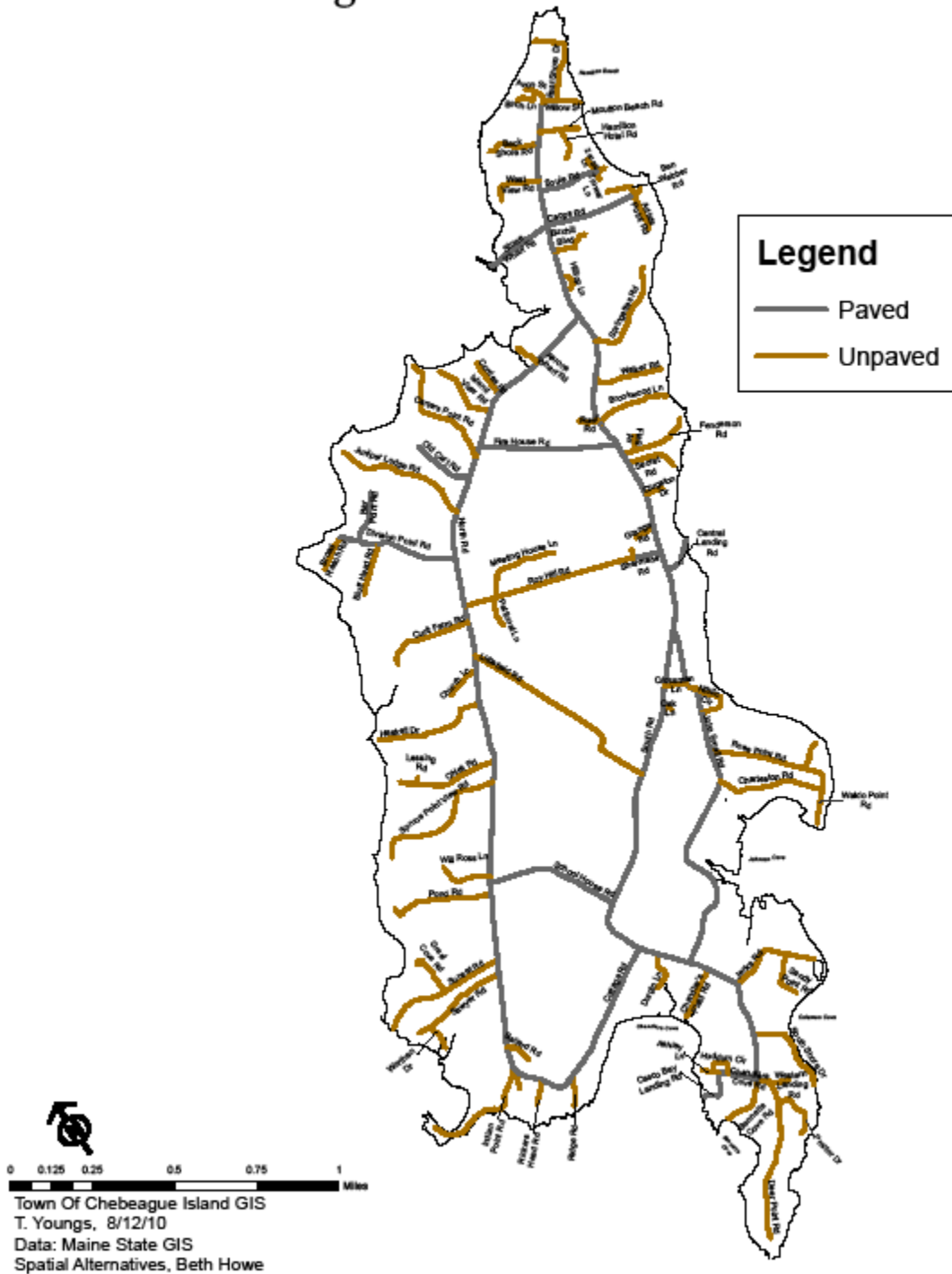


Figure 1 - Road Cross Section

Town of Chebeague Road Surfaces



Good roads have to be built and maintained to be “good”. A good road must have a good base of gravel that drains well. A rule of thumb is $\frac{3}{4}$ -1 inch of gravel for every foot of traveled way width; so a 20-foot wide road should have a minimum of 15 to 20 inches of gravel base. The material in the road should be of good quality and well compacted. The road must be designed to carry the largest vehicle that would be driven on it – in Chebeague’s case, the trucks carrying dumpsters from the Transfer Station, dump trucks or concrete mixers. And the road must be designed to drain well. This includes having a crown that sheds the water and adequate shoulders, ditches and culverts to carry water away from the road and not allow it to accumulate in the road base. There is little point in resurfacing a road with poor drainage – the potholes will simply return.

Road Maintenance

In addition, as the Repair Strategies graph (Figure 2) suggests, the least costly way to have good roads is to do good routine, preventive maintenance on roads that are in good condition already. Once roads have been allowed to deteriorate, bringing them back to good condition through rehabilitation or reconstruction, costs many times what it would have cost to maintain them. After the Patriot’s Day storm in 2007 Cumberland used FEMA money to

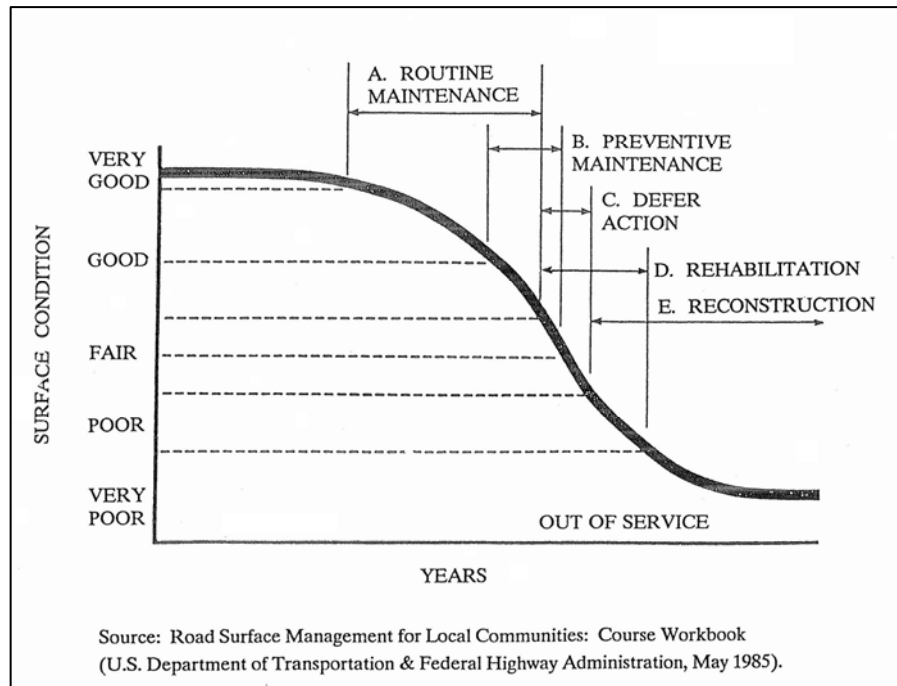


Figure 2 - Repair Strategies Graph

rebuild Roy Hill and Bennett Cove Roads. A

few years before that South Road was resurfaced from Wharf Road to Roy Hill Road. These are roads that now need to be well maintained to retain the value that was recently put into them.

Much of Chebeague’s basic road network dates back to the 19th century. In those days the roads were paved with clam shells. The original construction of these roads was probably not guided by much road engineering knowledge and it is hard to know what kind of base these roads had initially. After WWII the Army may have rebuilt South Road because of the damage that had been done by their trucks. Over time, others may also have been rebuilt rather than simply resurfaced.

Paved roads do not seem to be inherently better than gravel roads. If there is interest in paving the remaining gravel roads on Chebeague, it is important to remember that the requirements for a good base are just the same for a gravel as for a paved road. Both are primarily made of gravel.

The lack of a gravel pit that actually produces gravel, requiring gravel to be brought over from the mainland, makes any road repair or construction on the island expensive and difficult.

In 1999 Cumberland did an evaluation of the condition of all the Town's roads. It rated 34 percent of Chebeague's paved road mileage as less than "fair (very poor, poor and poor/fair) and 36 percent as "fair". At that time it was estimated that if little or no maintenance was done on the roads, 86 percent of the paved mileage would be in poorer than fair condition by 2003. At that time, just to take some examples, Cottage road was rated "poor", North Road was rated "fair" and Wharf Road was rated "good". Bar Point Road had the highest rating of "very good", as did John Small Road.

One of the guidelines that is provided by this kind of evaluation is that as roads deteriorate into the "fair" range, they deteriorate more rapidly and severely. So the logic is to maintain roads so that they do not reach this stage.

Current Road Surface Conditions

Given the prediction that most of Chebeague's roads would be in "worse than fair" condition by 2003, what is the current condition of Chebeague's roads? The Maine Department of Transportation (MDOT) has made several visits to the island during the transition in 2006/2007 and more recently in June of 2009 to assist the Town in assessing the condition of road surfaces and to develop a strategy for maintaining the surfaces.

The Town acquired the Road Surface Management System (RSMS) software and has conducted a surface inventory of 9.2 miles of *paved* roads.

The program then offers maintenance options with associated costs. This information is then used by the Town to develop and implement a maintenance plan.

Figure 3 shows and report segment for the initial inventory of John Small with maintenance options, the cost and the benefit. While the Town could contract with a consultant, as Cumberland did, to perform a road inventory the MDOT believes that local individuals can be trained to use tools like RSMS and take advantage of help provided by MDOT to achieve similar results at much lower cost.

John Small Road 01		Surface Coat, Asphalt		
-	19.0	0.000	0.410	
96 Months Added	Chip Seal, Double			\$ 1,108.72
60 Months Added	Chip Seal, Single			\$ 611.71
0 Months Added	Defer Maintenance			\$ 0.00
36 Months Added	Ditch, Fill/Seal Crk			\$ 429.00
72 Months Added	H.M., Shim and Thn Ov			\$ 1,108.72
24 Months Added	H.M., Shim Sand Seal			\$ 955.79
36 Months Added	H.M., Skinny Mix			\$ 955.79
36 Months Added	Sand Seal			\$ 382.32
John Small Road 02		Drainage, Poor, All		
-	19.0	0.000	0.500	
48 Months Added	Clean Ditches, Haul			\$ 804.88
12 Months Added	Clean Ditches, Poor			\$ 603.66
0 Months Added	Defer Maintenance			\$ 0.00
96 Months Added	Dtch, 6" Bse, 2"Ovr1			\$ 10,024.17
120 Months Added	Dtch, 10" Bse, 2"Ovr1a			\$ 12,122.25
96 Months Added	Dtch, Rclaim, 1"Ovr1a			\$ 6,993.60
24 Months Added	Grade Shoulder/Ditch			\$ 201.22
John Small Road 03		Crack Seal, Asphalt		
-	19.0	0.000	0.040	
0 Months Added	Defer Maintenance			\$ 0.00

Figure 3 - Example RSMS Report

The result indicated that Chebeague has 2.84 miles (31 percent) of road that is in good shape, needing only, at most routine maintenance. At the other end of the spectrum, it has 4.31 miles

(47 percent) of roads in poor condition. These need either complete reconstruction or major rehabilitation. In between are 2.05 miles (22 percent) of road that are deteriorating but could be brought back from this decline by timely preventive maintenance. Segments of road were prioritized according to the kind of traffic they carry, their importance and the nature of the surface – balancing the need to do preventive maintenance with routine maintenance.

After holding a public hearing on the plan, the Selectmen included money in the 2010-2011 capital budget to begin this work.

Safety

On Chebeague cars and other vehicles share the roads with pedestrians and bicyclists. In the summer there are many walkers and bike riders, often walking or riding abreast until they become aware that a car is approaching.

Island residents have traditionally taken a rather laid-back approach to traffic safety that relied on the lack of traffic and common sense to keep accidents from happening. Occasional auto accidents do happen, whether from drunken driving or inattention, but this does not seem to be a significant problem. Perhaps surprisingly there are also not many car-bike or car-pedestrian accidents either. Even so, every summer the obvious risk provokes comments about people walking in the middle of the road or bicyclists riding abreast.

“Solving” this problem, however, involves a considerable tradeoff. Creating sidewalks, even “freewalks” that are not higher than the street itself, requires widening the streets and costs money. So would allowing space for a bike lane. If the present informal island trails were formalized and maintained, it might be possible to designate some for biking, taking some of this traffic off the roads. However, just formalizing them as walking paths is likely to be a significant task.

Since Chebeague became an independent town, a number of simple measures have been taken to make the roads safer. State DOT evaluated what the speed limit should be and that has now been posted so that tickets can be written. A few stop signs have been added to the two informal ones at Firehouse and Roy Hill Roads where they meet North Road. The orange cones at The Center seem to have a beneficial effect on the traffic speed and might be considered in a few other areas where people and cars gather.

Chebeague has fairly narrow, rural roads with drainage ditches rather than curb and gutter. Parking is not allowed “on the street” except along Wharf Road. This generally leaves the roads unobstructed for traffic. This is particularly necessary and enforced in the winter, when snow-plowing is necessary and the banks of snow at the sides of the roads leave even less room for parked cars. Off-street parking is required for businesses and generally there seems to be enough except sometimes at the Inn.

There are 56 street lights on Great Chebeague, primarily at road intersections¹⁹. On stretches of road that have no intersections, there are few lights. In four areas of the island these are areas

¹⁹ This does not include the modern streetlights that the State installed at the State pier at Chandler’s Cove.

that have no CMP poles at all -- most of Roy Hill Road, South Road between Littlefield and School House Roads, the middle of Littlefield Road and Cottage Road from its start at North Road to the Hulburts.

This pattern of lights raises some interesting issues. On the safety side, bicyclists riding at night with no lights may have accidents and people walking in dark clothes are at risk. Street lights also aid in snow removal by increasing the visibility when moving snow away from intersections.

On the side of aesthetics, however, telephone poles can clutter up lovely views – people particularly say this about Roy Hill Road, but it is also especially true of Cottage Road. Also street lights add to light pollution. The dark night sky on the island is one of its pleasures. It might be easier to educate island people about having bike lights, wearing reflective clothes and carrying flashlights when they are out on the road at night.

Finally, if there were a storm or other emergency that required evacuation of the island, this would have to be done by boat [see what emergency response plan says???

Parking

Aside from private businesses, the only place where there is any significant amount of public parking is at the two ferry wharves. The adequacy of this parking is discussed in the Marine Economy Inventory. That discussion also describes the supply of parking at various other shore access points.

Paper Streets

The status of Chebeague's "paper streets" is more closely related to the goal of preserving open space than it is to the use and maintenance of ordinary roads.

When land is subdivided for development the individual or company that creates the subdivision lays out streets to provide access to it. These are often deeded to the Town. In some cases development of the subdivision never takes place or is much less than the developer hoped. This was true of a number of subdivisions on Chebeague at the turn of the 20th century. In other cases the road may be built initially but later is absorbed into adjoining private property. In either case, the roads go on existing on the Town's books as "paper streets". The Maine State Legislature has adopted a law requiring towns to review all their paper streets and decide whether they want to keep their claims or let them lapse. The Town has 20 years from 1997, to complete these reviews. These paper streets can be a valuable asset to Chebeague, in particular, since they are often located in subdivisions laid out on the shore.

Cumberland commissioned Donna Damon to study Chebeague's paper streets in detail. She made recommendations to the Cumberland Planning Board on the streets in the Nubble View and Waldo Point subdivisions. Other studies on Pleasant View Park, Merriam Point, Sunset Beach/Sunset Landing, and Division Point/Division shores still need to be done and their recommendations acted on by September 2017.

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Inventory of Transportation to the Mainland

Chebeague Island is served by two passenger-only ferries. They are owned by the Chebeague Transportation Company and the Casco Bay Island Transit District. None of the other islands of the Town have regular ferry service. The CTC is based on Chebeague and goes from the Stone Wharf to the wharf on Cousins Island in Yarmouth. The Casco Bay Lines is based in Portland and serves the Diamonds, Long Island, Chebeague and Cliff Island. It has a separate car ferry to Peaks Island.

In addition to ferry service some people travel to and from the island during the summer in private boats which can have moorings anywhere in Chebeague waters, or can have slips in limited numbers at the Stone Wharf. Similarly on the mainland side there are a number of places where moorings could be set and there is some limited space at the Cousins Island Wharf. However, this practice is not very common in the winter.

It is also possible to get service by Portland Express. The Marie L.. based on Chebeague, also takes groups on tours around the upper Bay.

Both ferry companies carry freight, as do several barging-only companies such as Lionel Plante (Peaks Island) and Island Transporter (Rockland). There are no car ferries to the island. Residents have separate cars on Chebeague and on the mainland, and parking them on both sides is a significant issue. Because of the importance of summer tourism in Chebeague's economy both ferries have many more riders and more freight in the summer than in the winter months. This creates issues related to balancing the need to carry peak loads in the summer with the cost of excess capacity in the winter.

The operation of the Chebeague Transportation Company is more central to this plan for several reasons. It is the island's primary passenger ferry and its easiest mainland access. It was organized in 1971 by Chebeaguers, is based on Chebeague and serves only Chebeague. It has the contract for taking school children to and from the mainland. It has a graduated fare structure that gives the lowest fares to regular commuters, with somewhat higher rates for year-round residents (actually, people who have a sticker for one of the mainland lots), a next tier for stockholders, and finally the full fare. It provides a variety of additional public services to the island, such as immediate and free transportation for patients being taken off by the Rescue service, and lower fares for health care providers and for island residents regularly visiting sick relatives on the mainland. It also has a contract with the School District to carry middle school and high school students to and from the mainland.

Even if CTC is more central, the Casco Bay Lines serves some commuters to Portland, and has a much greater capacity to carry freight that does not require barging. It also has the advantage of being accessible by bus from the Portland bus/train station and the Jetport. On the visioning survey, 15 percent of respondents said particularly that it was important to have both ferries.

Legal and Political Background

CBL

Prior to 1980 The Casco Bay Lines was the major private ferry service in Casco Bay. After World War II, however, it gradually declined in ridership, revenues and maintenance of its facilities. The separate Nellie G. inner bay service from Falmouth to Cousins, Littlejohn and Chebeague was absorbed by CBL in the 1950s and then abandoned in 1960 after the opening of the bridge to Cousins Island in 1956. In the 1960s, CBL's service declined. The State had to take over and rebuild most of the island wharves. Competing water taxi services sprang up. CBL held its own in part by threatening to sue "gypsy" ferries like the predecessor of the CTC.

In 1980 the line went bankrupt. And in 1981 the Legislature created the Casco Bay Island Transit District (CBITD). This "quasi-public" transit district is an independent agency with an elected Board of Directors with one representative (taxpayer or resident) from each of the down-Bay island, three from Peaks, two at large island members and one person appointed by the State and one, by the City of Portland.

CTC

The CTC was formed in 1959 by Jasper "Smitty" Smith. It operated as a water taxi on an on-call basis. After the Nellie G. ceased operation it became the only service on the old inner bay route which, though restricted only to Chebeague and Littlejohn, was now more attractive because the trip was short and the bridge to Cousins Island made parking there possible. In addition, the high school on Chebeague closed in 1957 and, after going to high school in Portland for several years, students began to be taken by boat to Cousins Island and from there by bus to Cumberland schools. In 1975 Smitty retired and his water taxi service was acquired by the Chebeague Transportation Company which had been set up four years earlier by a group of Chebeaguers to provide supplementary services to the water taxi including a float at the Stone Wharf, inland parking and a summer bus service to the parking.

CTC is a private, "for-profit" company owned by stockholders. Board members are elected at the shareholders' meeting held on Chebeague in the summer. Most residents of the island are stockholders, and so are many other people – relatives, friends, service providers, mainland builders – who have reason to come regularly to the island because stockholders get a reduction in the price of tickets.

CTC has had a history of conflicts that have threatened its existence, or critical elements of its operation, but it has survived for 50 years and recently has come to be accepted by the State as a small but necessary piece of the regional transportation system. In 1992 the State Legislature passed "An Act to Ensure the Availability of Ferry Service in Casco Bay" which protected CTC from suits like the CBL's gypsy ferry suits by stating in sec. 5101.E that "the Chebeague Transportation Company is not required to seek or hold a certificate of public convenience and necessity under section 5101 for ferry service between Chebeague Island and the mainland of Cumberland County north of Tukey's Bridge." Over the past ten years MDOT has intervened to insure that adequate parking and safe access to the Cousins Island wharf will continue to exist for people traveling on the CTC. In 1999 the State took the Blanchard Lot by eminent domain. In a case that came out of the taking, the Maine Supreme Court stated that CTC is "a community enterprise, and functions more like a non-profit than a for-profit corporation."

However, because of long-standing conflicts between CTC and the residents of Cousins Island over access to the wharf and parking, the company has been subject to several suits beginning in the 1970s, resulting in a consent decree, most recently revised in 1996, that significantly limits its operations in ways described below. In addition, in 1989 the Town of Yarmouth adopted the “over-the-hill” ordinance that seasonally restricts vehicles on weekends from being driven to the wharf to drop off belongings and passengers. In the same year the towns of Yarmouth and Cumberland reached a legal agreement which stipulated things like the number of trips CTC could run, its hours of service and the size of the ferry. This agreement was renewed in 2008 between Yarmouth and the new Town of Chebeague Island.

The Role of the Ferries in the Chebeague Economy

CTC is a more central concern in this plan in part because it is an important part of the Chebeague economy, while the Casco Bay Lines is less central but still important.

In 2009 CTC had 25 employees, nine of whom were full-time captains, deckhands or administrative personnel. Of these full-time employees, seven lived on the island. The remaining 16 were part-time bus drivers or fill-in deck hands, three of whom are from the island. The Company covers full-time employees with a variety of benefits including a pension plan and supplemental health care coverage.

In 2009, CBL had 40 year-round employees and 79 seasonal ones. None of them live on Chebeague. However, CBL makes regular freight shipments that are needed by island businesses such as the Store and the Inn, but which are not large enough to require a barge trip. It also has the mail and UPS/FEDEX contracts, ships food from Portland supermarkets to the islands and carries other things such as propane tanks and redeemable bottles and cans.

In fact, both ferries are critical to the survival of the island economy because, quite aside from carrying passengers, they bring out most of the goods for businesses and individuals that are supplied from the mainland – groceries, plants, appliances, car parts, clothes – virtually anything that is not grown or harvested on the island. Barges owned by CTC and other barge companies bring the rest. Less noticed, the ferries and barges also take off all of the refuse that island generates. CBL, for example, transports all the redeemable bottles and cans into a recycling center in Portland, and from time to time takes a load of recycled bicycles to Catholic Charities.

Pattern of Ferry Service

CTC

The Chebeague Transportation Company ferry runs from Chebeague’s Stone Wharf to Cousins Island in Yarmouth, a trip of about 15 minutes. During the week there are 9 ferries per day, leaving about every two hours during the day, with one ferry in the evening. Friday and Saturday have an extra evening run, and Sunday has one less. Different fares are charged to different groups: commuters pay the lowest fares, year-round residents and/or parking sticker holders, the next level, stockholders a third. Everyone else pays full fare. There are also special tickets for children and pets.

The company owns two boats: the regular ferry is the Islander. The standby boat is the Pied Piper. It also owns a barge and a push-boat, Dovekie.

The Pied Piper is also sometimes used for charters outside of Casco Bay, most recently in Rockland and Camden. Revenues from this support the rest of the company's services.

However, there are several constraints on expanding this use. One is simply that it is the stand-by boat and may be needed for ferry service. A second is that CTC does not have the personnel to man a second boat for a significant portion of the time. A third is that CTC is limited in where it can land on the mainland. It cannot pick up or discharge non-ferry passengers at Cousins Island and at other possible places such as Handy Boat or the Maine State Pier in Portland, parking is not easy to find.

CBL

The Casco Bay Lines operates out of Portland. The down-Bay service goes to the Diamonds, Long Island, Chebeague and Cliff. The trip to Chebeague takes about 75 minutes (depending on how much freight there is at the various stops). There are four to five trips a day depending on the season and the day of the week.

CBL owns five vessels including a car ferry, the Machigonne II, for Peaks Island. Generally four of the boats are in regular operation and the other is used when a regular boat has to be worked on or is being used for a charter.

The State replaced the Chandler's Cove wharf with a larger wharf in 2000. The Maquoit II, built in 1994 provided the capacity to handle more freight more easily with a crane and fork-lift roll-on/roll-off capacity for smaller-scale freight. It also has the capacity to carry three cars. A new primarily-passenger boat, Aucocisco III, was added in 2005 and is used on the down-Bay run.

The freight to and from Chebeague accounts for 15 percent of all the freight carried by CBL, with 60 percent of the freight shipped between April and October, and 40 percent in the winter. Only Peaks has a more stable year-round pattern, and this fairly stable business is very useful to CBL which, like CTC, has great variation in passengers between winter and summer.

CBL also uses their boats for cruises and charters. The regular "mail-boat run" to Long, Chebeague and Cliff carries lots of tourists in the summer. And the boats can be used for dinner cruises. Like CTC, but on a larger scale, CBL uses the 18 percent of its revenues that come from these cruises and charters to support its other operations.

Funding

CTC must operate and replace its capital stock such as boats and buses on the revenues it can earn. It has revenues from passenger fares, a bit from freight on the ferry, from parking at two parking lots, from its barging operation and from some charter business. The parking lots, and the charters generate revenues that help to support the rest of the operation.

CBL operates largely on revenues it earns. It has revenues from its passenger service, from fares for cars to and from Peaks, from freight and from charters and cruises. It owns no parking. The lot next to the terminal in Portland is owned by the City and a private entrepreneur. For CBL the cruise/charter business helps to support the rest of the operation. Until ten years ago the

revenues from summer supported the operations over the winter, but for nine years, this has not been the case and they have borrowed money to bridge seasonal shortfalls..

A major difference between CBL and CTC is that the former gets 18 percent of its operating revenue from State and the Federal subsidies. It can also apply for capital funds for boat replacement to both the State and Federal governments.

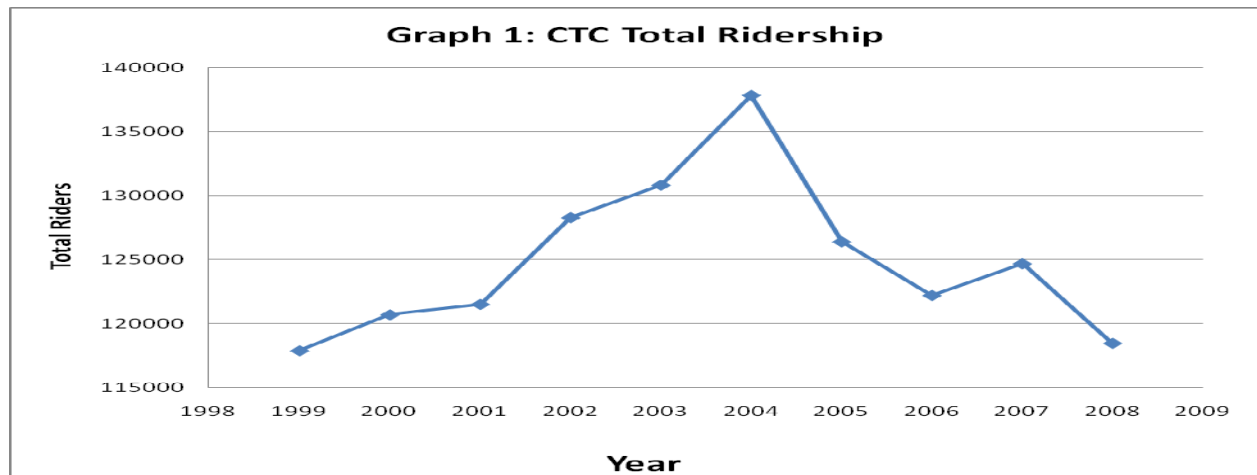
Over the past several years both ferry companies have been hard-hit by increases in fuel costs. CBL adopted a fuel surcharge; CTC did not but later raised rates.

Ridership²⁰

CTC

Like everything else on Chebeague, the small population and economic base of the island makes the CTC more vulnerable to business fluctuations. In addition, like the population, ferry use is relatively low during the winter and surges in the summer.

CTC had almost the same number of riders in 2008 as it had in 1999. But Graph 1 shows that ridership rose steadily until 2004 and has since declined fairly steadily. In part this increase was due to a substantial rise up to 2004 in “resident” riders, meaning people who have year-round



stickers in one of the parking lots²¹. Since 2004 there has been a gradual but not large decrease in

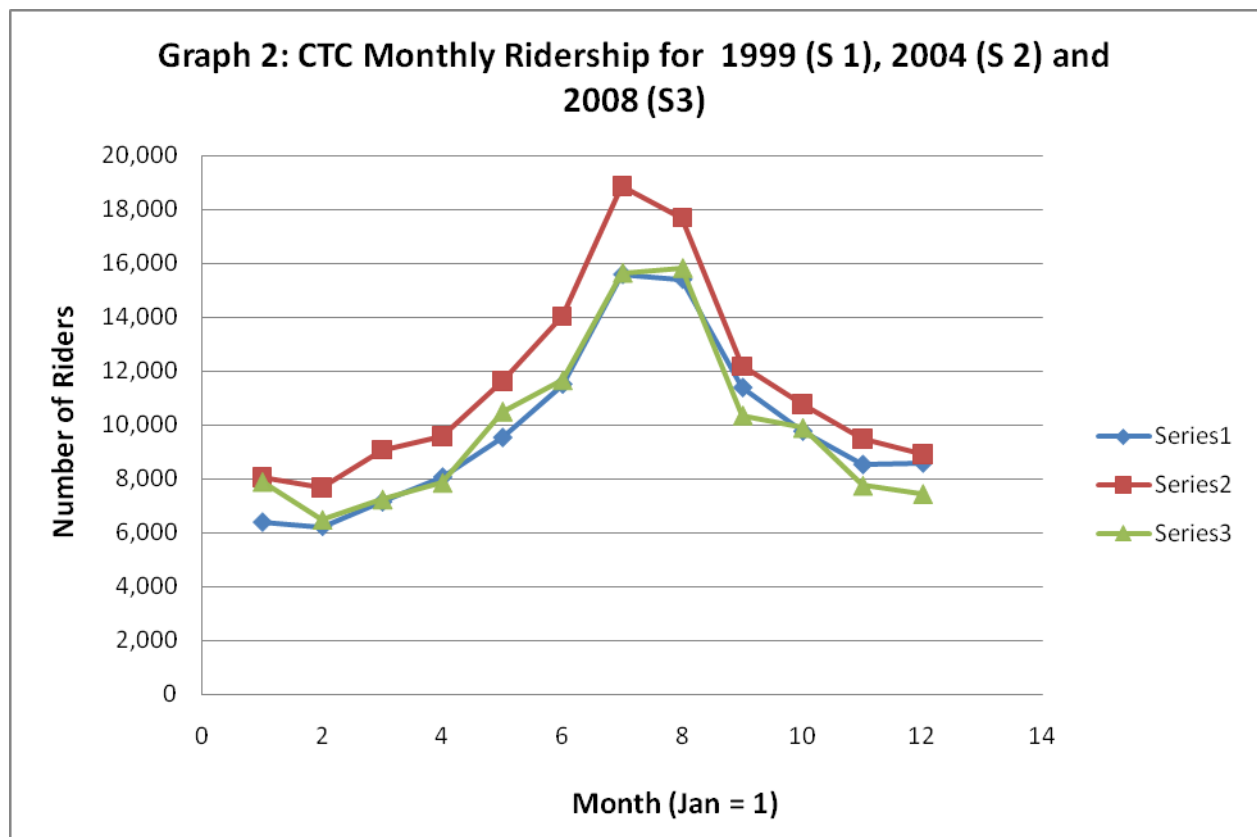
²⁰ The Comprehensive Planning Committee had an extensive discussion about what the pattern of CTC ridership over the years indicated about the future need for parking. Additional data was collected on ridership going back to 1990, and a revised graph and discussion are found in the Wharves, Waterfront and Outer Islands Chapter of the Plan.

²¹ About one third of these “residents” do not live on the island year-round.

ridership by this group. The other element in this increase appears to have been due to a major increase up to 2004 in full-fare riders who may have primarily been construction workers building the 12 houses that were approved for construction in 2001. Another, smaller upsurge in 2006-07 may have also been construction related.

The practice of having weddings at the Inn also contributed to the greater number of passengers between 1999 and 2003 when the Inn was under its old management. Between 2004 and 2006 the Inn held no weddings. In 2007 it was closed. In 2008 it opened again but did not have weddings. Normally in the summer there are more ferry riders on weekends than during the week. But in 2003 when weddings were still being held the weekend increase was greater than in years with no weddings. So in June 2003 there were 24 more cars in the Route 1 lot on weekend days than in 2006, and 16 more than in 2007. In August the “wedding effect” was stronger, with 45 more cars in the Route 1 lot on weekend days than in 2007 and 30 more than in 2006. Since most cars coming to a wedding probably bring more than one person, the extra ridership to these weddings may have been in the range of 40 to 100 people per day.

The pattern of ridership in Graph 2 also shows the increase to 2004 (in red, series 2; series 1 is



1999 and series 3 is 2008), but more important, it shows the extreme variation in ridership between summer and winter. From the low of 6,000 to 7,500 in February, the number of passengers almost triples to between 15,500 and almost 19,000 in July and August.

These fluctuations make projection of future ridership difficult. Probably the best guess is that ridership in both the winter and the summer will fluctuate within the limits seen over the past ten years. House construction increases the number of workmen riding the ferry and, ultimately, the number of residents. The resumption of weddings at the Inn would also increase ridership on summer weekends and will also increase the number of days that the Route 1 lot's capacity of 300 will be exceeded, as it was in 2003.

In some respects the ridership is irrelevant until the capacity of the ferry is regularly exceeded and a decision has to be made about the purchase of a larger boat. The Coast Guard-rated capacity of the Islander is 119 passengers and 3 crew. If more than 119 people want to get on, then two trips are run. At this point this happens occasionally in the summer. The legal agreement with Yarmouth also establishes a formula, based on the number of covered seats on the boat, for determining when overcrowding would reach a point where a larger boat could be considered.

CBL

Overall, the largest part of CBL's users and revenues come from Peaks Island. The down-Bay service is required by the law that set up the CBITD, and Chebeague is the only island that has an alternative ferry service to the CBL. So it is an essential part of the regional transportation system.

CBL's ridership for 2008-09 was 891,933 passengers. The seasonal pattern is similar to CTC's. From 35,000 regular passengers in February 2008, the ridership burgeoned to 155,000 in August. For both regular service and cruises and charters it also fluctuates with the state of the economy and the summer weather. From May to September in 2008, for example, CBL had 37,000 fewer riders than the year before because of the recession and a rainy August and September.

Over the past ten years CBL's ridership from Chebeague has been quite stable at about 9,000 trips per year. This is 1.1 percent of CBL's total ridership. It is not projected to increase.

Parking

Mainland Parking

CTC

On the mainland the Chebeague Transportation Company leases two parking lots, one on Route 1 in Cumberland near the Yarmouth Town line and the other, known as the Blanchard Lot, is on Cousins Island within walking distance of the wharf. Most people going out to Chebeague park in one of these lots. They can pay for the parking by the day²² or they can buy a yearly or monthly parking sticker.

²² At the Blanchard Lot people working on Chebeague during the day can park when commuters are gone, but they cannot stay over night.

Today the parking situation is much more stable and has more capacity than it had ten years ago. The 1990's was a time of great uncertainty because CTC's lease on the Blanchard Lot was due to expire at the end of 1999, and in 1994 the Blanchard family indicated that they would not renew the lease. In the next few years MDOT became involved in trying to work out an agreement between Chebeague/Town of Cumberland and Yarmouth over the site of a new parking lot. This was not successful. In 1998 Yarmouth considered a proposal to eliminate parking on Cousins Island and bus all passengers to a remove parking lot in Cumberland. But in July MDOT declared "the Chebeague Island ferry . . . to be an essential public service" and that "the Department is prepared to use its legal authority and financing to secure the continued operation of the ferry". In August it announced its intention to acquire the Blanchard lot through the State of Maine's powers of eminent domain.

In the meantime, CTC was using a parking lot at the Cumberland Town Office on Drowne Road for its remote summer parking. But this lot was becoming crowded, and in 1999 MDOT made available a 14 acre piece of land that was left over from the construction of I-295 in Cumberland for the construction of a larger and more formal "Route 1" satellite lot.

The final piece of the State's effort to stabilize the CTC's operations by insuring the availability of mainland parking was to reconstruct and enlarge the road from the Blanchard Lot to the Cousin's Island wharf in order to improve safety and accessibility. This project is anticipated to be done during the spring of 2010. MDOT will contribute \$770,000, and the Town of Chebeague Island's share, not raised by a bond issue but included in the 2009-10 budget, is \$154,000. In addition, the Town will also pay \$15,000 yearly into a fund for the maintenance of the Cousins Island wharf, \$10,000 more than it has in the past.

So, how does the mainland parking and bus system work now? The Blanchard lot has a court-determined 165 spaces including 15 that are reserved for residents of Yarmouth. Space in this lot is primarily allocated to year-round residents, especially commuters who buy yearly parking stickers. Because many leave in the morning, people working on Chebeague during the day can park during the day if space is available.

The Route 1 satellite lot has 300 spaces. People may buy yearly or monthly parking stickers and in 2008 there were 182 permit holders. Short-term visitors pay by the day. In the winter the number of cars parked there is far fewer than the total capacity of the lot. Indeed some people with Blanchard stickers move up to Route 1 in the winter because it is easier to use in the snow. But on the July 4th weekend the capacity is exceeded.

Initially the Route 1 lot operated only in the summer, but in 2001 the number of people parking over the winter exceeded the 165 spaces in the Blanchard lot and the bus became a year-round part of the island transportation system. The bus ride is free. A bus meets every boat, leaving the Route 1 lot a half an hour before the boat's arrival at Cousins Island. The CTC owns three buses, two of which were bought new and were specifically designed for transport to the ferry. At very busy times of year it is necessary to run two buses to a boat.

CBL

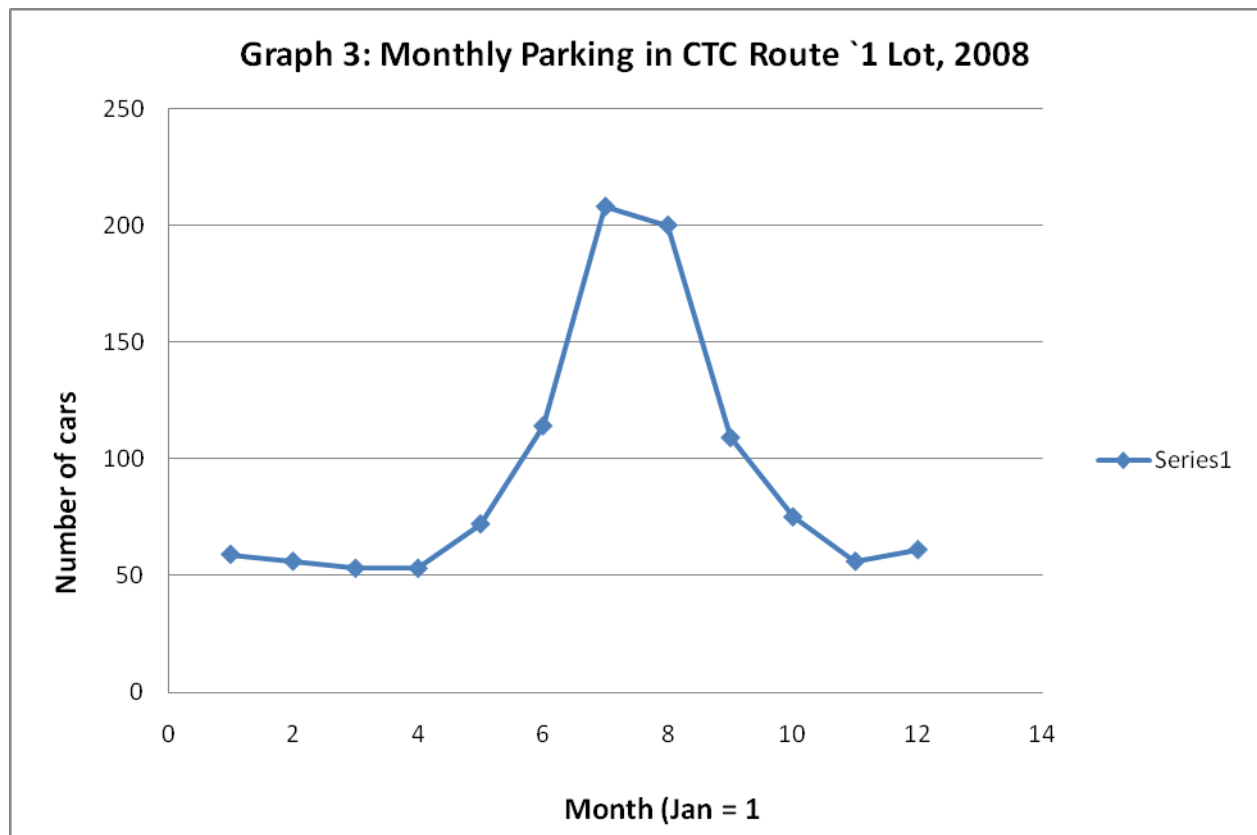
In 1990 the City of Portland built a new terminal and modern public parking garage for the CBITD on Commercial Street in Portland. The garage belongs to the City and a private entrepreneur. Its spaces for commuters from the islands are fully subscribed, and sometimes people going to and from the islands have to use other City parking garages. Parking for people without permits costs \$25 per day.

Parking for Chebeague residents taking the Casco Bay Lines is not a significant issue since there are relatively few regular commuters from Chebeague on CBL. If there were some reason to increase ridership on CBL, the parking issue would have more salience.

Issues Related to Mainland Parking

For the moment the major, longstanding issues related to parking on the mainland have been resolved. The primary ongoing issue will be whether the two CTC lots will be able to handle growth in the number of vehicles during the high summer over the next ten years.

Parking in the Cousins Island lot does vary between winter and summer, but since it has a limit of 165 spaces (150 for Chebeague residents) and largely serves year-round residents, the number of cars in the lot, even in the dead of winter when year-round people go to warmer climes, rarely drops below 100 cars. In the high summer it is usually close to capacity.



On the other hand, Graph 3 shows the number of cars parked each month in the Route 1 parking

lot. The patterns in the summer for 2001 and 2008 are almost identical. Even 2004, which had much higher ridership than 2001 and 2008, saw hardly any more cars in the lot, so it may even be the case that the number of cars in the summer has not been growing substantially. And overall, the capacity of the lot seems adequate for the summer. In 2008 there were more than 200 cars in the lot on only 23 of the 62 days in July and August, a decrease from 27 days in 2001.

The pattern of the maximum does suggests possible future space issues. On the Fourth of July holiday since 2003 the number of cars has considerably exceeded (391, 378, 385 cars, for example) the 300-space capacity of the lot; and when the Inn was having weddings there were some other days when there were more than 300 cars. But building more parking just to accommodate cars on less than 14 days in the year, seems illogical.

In general the number of people parking in the Route 1 lot in the winter has increased from a monthly average of 24 in February 2001 to 56 in February 2008. Some of these are people moving up from the Blanchard Lot just for the winter. This still leaves a very large number of empty parking spaces in the winter, though the bus must make every run, even if there are only one or two people.

The other issue about the mainland parking system, raised by 12 percent of respondents on the Planning Survey, is its expense. This creates two, somewhat separate problems. One, it increases the cost of living on the island, quite substantially for people who must have multiple cars on the mainland. Second, it makes visiting the island for the day or for a week, say, to see family or friends quite expensive.

The other side of this issue, of course, is that running two parking lots and a year-round bus service, as well as a ferry, is quite expensive. The parking fees are one way to cover some of this cost. Indeed, the Blanchard lot makes more money than it costs to operate.

Island Parking

The two ferry lines have wharves at opposite ends of the island. Because of chance events such as World War II, and Chebeague's decentralized land use pattern, neither is located in a "town" area. The Stone Wharf is closer to the traditional "Center" than the State Pier. But for anyone arriving on the island at either wharf without a car, a ride, a taxi or a bike, the island is not very accessible. By the same token, residents generally drive to the wharf and expect to be able to park there.

Neither CTC nor CBITD owns or leases parking space on the island for people taking the ferries. The Stone Wharf and its 80-100 parking spaces belong to the Town and ferry riders park there free of charge for a maximum of 24 hours. When MDOT rebuilt the Chandler's Cove pier in 2000, they improved two town-owned lots at the head of the pier as parking for 17 vehicles in an upper lot and two handicapped and a possible single regular space in a small lower lot. Again the parking there is free.

The parking at the Chandler's Cove Pier seems to be sufficient, though if there were a substantial growth in CBL ridership over the next ten years it would not continue to be.

Parking at the Stone Wharf for its multiple uses including the CTC ferry has been a problem almost as long as CTC has been in existence. Even though the school children are brought to the ferry by the school bus, and some people are dropped off, the centrality of the CTC ferry in the island's life creates a substantial need for parking on the wharf and up Wharf Road, especially in the summer. In June and November many lobstercatchers put in and take out their traps from the Wharf and parking is even more restricted. The ambulance and the school bus wait for the ferry on the wharf, as do the taxi and the cars of people picking up ferry passengers. In summer the Inn has an electric jitney that they send down for guests. When barging is occurring, vehicles to be barged or ones coming off the barge are waiting or being driven around. There is no set traffic pattern for cars leaving passengers off for the ferry or coming down to collect luggage and groceries. People who have boats moored off the wharf drive down or walk through, as do people buying lobsters or playing off the 7th tee. Though there are many times when the wharf is deserted and peaceful, or, in winter, raked by a bitter wind, in the high summer all of these activities often take place at the same time. There are not actually many accidents, but this, in itself is quite surprising. Until about 1990 there were also oil storage tanks and a small restaurant on the wharf as well. These were removed in the interest of reducing the traffic that came to the wharf.

The parking is both on the wharf and on Wharf Road as it goes through the golf course. Starting in 1980 there were a variety of proposals to increase the amount of parking. The first proposal was to fill the cove on the east side of the wharf to create a 40-space parking lot. This created a furor and was not done. In 1985 the Town created filled land at the level of Wharf Road on both the north and south sides of the road, creating about 25 spaces in addition to the 14 or so on the wharf itself. The 1988 Stone Wharf Committee report recommended removing all the parking off the wharf itself, creating a circular traffic pattern on the wharf to make the traffic pattern safer. The lost spaces would be replaced by buying property from the owners of the York/Kendall house and/or the Golf Club, and building a 20 to 35 car parking lot next to Wharf Road. This proposal was also controversial in part because in 1989 the Town was persuaded to buy a piece of property at Sunset Landing at the West End, with the idea of moving the wharf and parking to it. In the end, no wharf was built at Sunset and no new parking was created at the Stone Wharf.

A more modest proposal to reorganize the parking on the Wharf was made in 1995, and carried out. The 2002 Stone Wharf Committee did not address the parking issues as they had intended. They were also thinking again about Sunset Landing and had Prock Marine develop a very preliminary and general proposal for a wharf there. This was not built either.

Then in 2007 a proposal was made to extend the perpendicular parking up the north side of Wharf Road in front of the York/Kendall house. The owners of the house objected and in 2008 the Town extended the parking up the road about 10 - 12 spaces, for a total parking capacity currently of about 80 spaces. In addition cars are allowed to park on the south shoulder of Wharf Road. This parking, which is used when all the other spaces are full, runs up through the Golf Course and sometimes accommodates as many as 25 to 30 more cars, for a total of about 110 spaces.

These 110 spaces were adequate for the summer parking in 2009, though having parking up Wharf Road is incompatible with the golf course, at least the way it is configured now. The adequacy of the parking in the coming winter should be evaluated. Since CTC's ridership varies considerably with the state of the general and especially the construction economy and the peak ridership over the past ten years was in 2004 and has declined since, it may be that the parking capacity of the Stone Wharf is now adequate. The question this raises is whether the Town should plan to meet the maximum demand for parking in boom years, or something closer to the average demand over a period of some years.

Barging

On both ferries passengers can bring personal baggage such as suitcases and bags of groceries and bikes. CBL carries larger, items that have to be unloaded by crane, on pallets or in luggage carts. But larger items such as island cars, moving vans full of furniture, construction supplies, gravel and trash containers for the Transfer Station have to come to the island by barge.

In addition to its two ferry wharves, Great Chebeague also has two public barge landing areas, one at the Stone Wharf and the other at Bennett's Cove. The former is most easily served from Yarmouth and the latter, from Portland. The former is largely, but not entirely, used by the CTC push-boat and barge. The latter is used by other private barging companies. CBL has no barge operation.

Both landings have probably seen significant increases in traffic over the past 10 to 15 years, but there are no data going back that far. In about 1995 the old dump was closed, requiring all trash to be taken off the island by barge in huge containers. The 1990's and much of the first decade of the 21st century was a period of active building on the island, producing a lot of barges carrying building supplies from concrete mixers to lumber and bricks. However since 2004 this traffic has declined.

The CTC push-boat and barge goes to the Stone Wharf. CTC's barging is strictly regulated by the consent decree. They can only barge from April 1 to November 30 from 7:00 to 5:00 on weekdays. During the high summer only ten round trips are allowed each week. In the spring and fall "shoulder season" the number is increased to 12 round trips. The size of the barge that can be used is limited to the size when the decree was written. Ten-wheeled vehicles such as concrete mixers or construction trucks with a crane are only allowed on the barge for six trips each year. No solid waste can be taken from Chebeague to the mainland through Cousins Island. In addition to all these regulations, barging is dependent on the tide, which further restricts when it can occur.

These rules do not apply to CTC if it barges from sites other than Cousins Island. In recent years it has done some barging from Yankee Marina on the Royal River in Yarmouth. The most regular user of this option is Pat Jackson's septic pumping truck which makes ten to 13 trips per year.

As Table 1 shows, CTC barged, on average 47 percent of the weekdays in its season. Between 50 and 60 percent of the vehicles brought over and back by the CTC barge are commercial ones that belong to people who are doing work on the island. Some, like Chebeague Sand and Gravel,

are island businesses that barge regularly. Many others are mainland businesses bringing out both transportation and supplies for particular jobs. The rest of the vehicles are cars and pick-up trucks for people living or staying on the island.

Table 1: CTC Barging

	2003	2004	2005	2006	2007	2008	Average
Total vehicles	1001	1034	864	896	946	724	910
Commercial	557 56%	624 60%	494 57%	517 64%	472 50%	339 47%	500 55%
Private	444	410	370	379	474	385	
Total trips	214	210	172	201	178	130	
Trips from Cousins Isl.	181	195	157	159	153	159	
Cousins Isl. Barge-days				79	71	60	70/150 = 47 %

The barging generally fluctuates with the state of the economy, down, for example between 2007 and 2008, and generally down from the recent high in 2004. This poses a problem for CTC which uses the revenues from barging to support the ferry operation.

Because the CTC barge usually comes across from the Cousins Island parking lot, the location of the ramp on the Stone Wharf is very efficient. However, the ramp contributes to the general congestion of vehicles on the wharf. Because the barges have to operate when the tides are right, activity tends to be concentrated rather than spread out in time.

Barging at Bennett Cove provides greater flexibility than the Stone Wharf to people who want to bring material onto the island. It is convenient for commercial barges coming up from Portland. There are no court-ordered restrictions on the amount of barging, and it can be done throughout the winter. Unlike the ramp at the Stone Wharf which is concrete, the barges at Bennett's Cove simply come up onto the beach which slopes fairly gradually and so can accommodate barges over a longer period at the high tide. Bennett Cove tends to be used by the large barges owned by private barging companies.

There is no data for the growth in barging at Bennett Cove over time, but in 2004, at the height of CTC's barging, Sanford Doughty whose windows look out on the Cove, recorded all the barge landings for a ten month period (except mid-March through May), for days when he was at home, giving a minimum estimate of the traffic that year. Barges from Lionel Plante, Reliance and some other companies barged on 100 of the 217 week days (46 percent), making 135 landings. This was about the same amount of activity as CTC's barging at the Stone Wharf. Most days saw only one trip, but on 26 days there was more than one, and even as many as 4 or 5. Sanford counted 47 dump trucks as well as concrete mixers, flat-bed and boom trucks for lumber, moving vans, cherry-pickers and tree-cutting equipment, propane trucks and trucks hauling the dumpsters for the Transfer Station.

This level of barging creates problems even in a relatively uncongested area. The surrounding land use is all residential and the increased use and the industrial character of the barge-landing has created considerable unhappiness in the area. The heavy traffic has been hard on the gravel road up to South Road which was substantially rebuilt by the Town of Cumberland after all the barging of road-building materials to repair the island's roads in the wake of the Patriots Day storm in 2007.

The barging also affects the beach itself. The power of the propellers holding the barge to the shore churns a large hole into the substrate, exposing a CMP power cable that comes onto the island in the same place. In addition, Bennett Cove is the only place on Chebeague that has been identified so far as suitable habitat for baby lobsters who take up residence under the rocks that are exposed.

Issues Related to Island Ferry and Barge, Parking and Access

The chronic shortage of parking at the Stone Wharf, especially during the summer, means that this is now the major planning problem related to transportation to the mainland. This report will only lay out several major alternatives and the obvious considerations related to them, without suggesting what alternative, if any, should be pursued. Only further research on the feasibility and cost of these alternatives, and further community discussion, can resolve this issue.

The basic set of questions are whether the Town should focus on

- increasing the amount of parking at the current wharves,
- moving some of the functions now at the Stone Wharf to some other location on the island where more parking could be provided, or
- bringing people to the wharves by bus, either from a "satellite" lot, or
- by having a regular bus route that goes around the island.
- none of the above because the existing parking is adequate.

Up to this point Cumberland, and now the TOCI have focused on **increasing the supply of parking at the two existing ferry wharves**. Recently 10 to 12 new spaces were added at the Stone Wharf which help somewhat in the summer and may help even more in winter. The 2000 rebuilding of the Chandler's Cove Pier increased the supply of parking there. However, both wharves are closely surrounded by valued land uses that have existed for many years, so there is little room for significant expansion.

Issues at existing Wharves

Is 110 spaces at the Stone Wharf enough for summer? What is the expected growth in parking demand given recent declines in CTC ridership?

Is 110 spaces at the Stone Wharf enough for winter? What is the expected growth in this parking demand?

Is there any way to separate the parking issue in the summer from that in the winter?

Would it be useful to reconsider the general traffic pattern at the wharf?

Would it be useful to explore reconfiguring the golf course so that fairways do not cross the road?

Is 17 spaces at the Chandler's Cove Pier enough?

A bus service around the island, probably only in the summer when the population is larger, would be a major departure from the existing pattern of driving everywhere, including to the wharves. So pervasive are cars on the island that there is now only one taxi on the island. It has recently changed hands and now operates in the evenings as well as during the day.

Issues Related to a Bus Service

Would the bus serve only some of the ferry riders, for example, not commuters, but everyone else, or, on the other side, only commuters?

Should it be a bus from a central satellite lot or a regular bus route around the island?

If a satellite lot, where should it be located and how should the externalities of a large car-park – traffic, noise, the visual impact of a large parking lot, and lights at night -- be dealt with?

How would passengers on a bus deal with the luggage, beanbags and other things that they have brought out on the ferry? How would the satellite or regular bus route options deal with this issue?

How much would either kind of bus service cost and how could it be paid for?

Moving CTC and Barging to Sunset Landing:

Sunset Landing Background

As has already been described, from the late 1980s through the 1990's there was a very high level of conflict between Chebeague and the residents of Cousins Island over increasing traffic and the use of the wharf, Wharf Road and the Blanchard parking lot. In addition, in the late 1980s an entirely separate issue put the issue of ferry facilities on both Chebeague and Cousins Islands much higher on the Town of Cumberland's agenda. This issue was the closing of the old dump on Chebeague and the requirement by the State that the island's trash be barged to the mainland. It was thought that the trash would have to be barged by the Casco Bay Lines on the car-ferry Machigonne II. The configuration of the Chandler's Cove wharf made this impossible, and the only other barge landing on Chebeague was at the Stone Wharf which was too small. This suggested that a new wharf would be required.

In 1989, Yarmouth and Cumberland entered into a legal agreement on the use of the Cousins Island Wharf, effective until 2000, and established a Yarmouth-Cumberland Joint Standing Committee to implement the agreement.

That same year the Town entered into negotiations to buy a 6.11 acre piece of land at the west end of the island on the shore facing Cousins Island. It had been part of a never-developed, turn-of-the-century subdivision called "Sunset Landing". As soon as Cousins Island residents got wind of the idea that it might be used to barge solid waste off Chebeague through Cousins Island, they got language included in the court decree, then being developed, prohibiting the transportation of garbage through Cousins Island.

Several proposals were immediately made in 1989 and early 1990 for the use of the Sunset Landing property and an adjacent parcel.

- The Town proposed moving all island ferries and their parking – both CTC and CBL to a new wharf. In addition a facility would be built for CBL to take off the trash containers which would then be taken to Portland. The Town also envisioned moving the Transfer Station and the Town Garage and salt shed to the new wharf since they would be major users of the barging. An engineering study done at the time suggested that Sunset should have float landings for at least two vessels up to 65LOA, support for vehicles and it should have a wind and wave break.
- Chandler’s Cove wharf would become a Town wharf.
- In addition, the Town proposed that it and Yarmouth should ask CMP for permission to use land at the Wyman Station power plant on Cousins Island for a new wharf with parking for CTC, thus moving it away from the Harmony Hill neighborhood.
- Jimmy Stewart who owned an adjacent parcel suggested a restaurant, and a general store with gas station as well as a picnic area and public restroom.

The land was bought in 1990 for \$250,000, just as the existing Stone Wharf Committee was making proposals for reorganizing the traffic pattern and parking at the Stone Wharf. By 1991, Cumberland was working with State DOT on how facilities at both Sunset and CMP Wyman Station power plant on Cousins Island might be planned, funded and built. The State had no money for such a project but encouraged Cumberland to fund its own engineering study of the Sunset portion. Cumberland appears to have considered but turned down this idea.

By 1992 there was talk of using Bennett’s cove for barging the solid waste. Also the Joint Standing Committee was discussing talking with CMP about a new wharf at the power plant, and in June 1993 T.Y.Lin produced a concept design for such a wharf.

In the meantime, however, since the State was requiring immediate closure of the landfill and it was apparent that no wharf would be built at Sunset Landing in the immediate future, Cumberland decided to build the new solid waste Transfer Station at the old landfill and to use the rest of that sizeable piece of land for the new Town Garage as well. The work on these was done in 1994 -5.

Also in 1994 the Blanchards announced that they would not renew CTC’s lease on their parking lot that would end in 2000. In 1996 MDOT empanelled a group of representatives from both Yarmouth and Cumberland, the Chebeague/Cousins Transportation Resolution Team. It identified 23 possible ferry and barging sites, recommending the Wyman Station site. However, this proposal was rejected by DEP because it would harm eel-grass at the site, and the cost would be prohibitive for DOT.

Chebeague was divided. Some people, including those living at Bennett Cove, thought that the move to Sunset would solve a lot of problems. But the cost would be very large – anywhere from \$1 to \$3 million dollars was estimated for Sunset alone and it was unclear where or when such funds might be acquired. In the end, because of mixed signals from Chebeague, the high cost, and the increasing pressure to work out some solution to the mainland parking problem by 2000, the Sunset Landing proposal died.

However, the Town of Chebeague Island still owns the land at Sunset Landing and there is still some expectation that it could be used for all or some of CTC's operations.

What We Know About the Site

The Sunset Landing parcel is 6.11 acres. There is some dispute about the location and ownership of the access road to the site.

The Sunset Landing site is about the same distance from the present Cousins Island wharf as the Stone Wharf is. It is a straight shot from Portland, as well, though passenger service to Cliff Island would be less convenient because of the need to go back around Little Chebeague.

The site faces 296 degrees northwest toward Basket Island. It is exposed to the southwest, with a fetch from Portland of 7 miles, and to the northwest, with a fetch toward Falmouth of 3 miles. The original landing for the turn-of-the-century subdivision had been lost to ice and wind. Both CTC in 1989 and Prock Marine in 2002 thought that wave fences would be necessary to protect a year-round facility.

No detailed studies were done of the suitability for a wharf of either the land or the underwater substrate. It appears to be exposed ledge and rocky bottom. The water is said to be "deep". The chart shows a depth of from 6 to 10 feet at the shore, with the water depth increasing fairly rapidly to 24 feet. One estimate was that a pier would have to extend at least 100 feet beyond the low water mark. The 2002 conceptual design by Prock Marine shows a 20' x 100' approach pier, with an additional 6' x 130' pier/wave fence connecting to two angled ramps, each with 90' of floats for boats to tie up to. The floats are, in turn protected by another wave fence at the outside end of the 130' section. This 230 foot pier was estimated to cost \$138,000 for design and permitting and \$1.154 million for construction. It had no facilities for barging.

No conceptual site plan for the land side of a Sunset Landing proposal was ever done.

Issues about Developing a Marine Facility at Sunset

Is there a need for a new marine facility given present ridership on CTC, parking at the Stone Wharf, and present demand for barging? Is this need great enough to justify the cost of the facility?

If there seems to be need for another marine facility,
Would Sunset Landing be more suitable for some of the non-ferry marine uses that are presently located at the Stone Wharf – for barging or fishermen, or pleasure boats, for example?

Would service from Sunset Landing work efficiently for CTC, given that the wharf and parking on the mainland is now likely to remain where it is at present?

There is no real road down to Sunset Landing and no wharf can be located at the shore without a Town road. Since this area was subdivided in the early 20th century there are a number of paper streets in the area. It may be legally unclear where a Town road could be built. The construction of the road, which would probably have to carry quite a lot of traffic, is likely to be quite expensive.

The earlier proposal was to move the ferry and its parking to Sunset Landing. This raises a series of issues:

It would involve the construction of a new wharf:

Is this a suitable site for a year-round wharf relative to the strength and direction of winds at different times of year and the buildup and movement of ice in the winter?

What kind of wharf would be needed and how much would it cost? Should this include multiple floats and punt tie-ups? Would it require a wave break?

Parking:

How much would be needed?

Is the site suitable for it?

What would be the cost?

In addition, or as an alternative, it would be possible to consolidate and move Chebeague's barging from the Stone Wharf and Bennett Cove to Sunset Landing.

Would this site be suitable for service both from Portland and from Cousins Island and the Royal River?

Could this shore be made suitable for a barging ramp that could be used for a reasonable amount of time given the tides? Would a pier be necessary? How would this work?

What kind of road would need to be built to handle the heavy trucks that are barged to the island?

What would a barging facility cost?

What kind of buffering would be needed to make any major marine use acceptable to neighboring property owners?

Should there be other facilities besides the marine terminal and its parking?

A restaurant, store, gas station, public rest-room, camp-ground?

What kind of zoning would be required for proposed uses?

CTC Governance

CTC is a private corporation with stockholders. As a practical matter, this means it is owned largely by the residents of Chebeague Island, and is responsible to them. As a private company,

however, it does not qualify for governmental funding that may be available for public transportation projects.

In 1993-94, as CTC was heading into the rough waters of looking for an alternative to the Blanchard Lot, a group of Chebeague residents established a committee to consider alternatives for the governance of CTC. The Community Transportation Forum considered the pros and cons of a variety of governance models from the existing for-profit private company to a non-profit, to a quasi-public transit district, to a municipal transit district, to ownership by the Town. They looked at how each organizational form would work for maintaining autonomy and control, providing good service, keeping rates down, being eligible for state and federal funding and for giving CTC leverage in dealings with Yarmouth.

Now the effort to insure the availability of mainland parking has ended at least for the time being. But the issue of CTC's organizational structure is still on the table.

The company is presently working toward creating a non-profit company which could then receive the CTC's assets and become a new non-profit CTC. Exactly how this would work is under consideration.

Issues

Is this issue primarily up to CTC?

Transportation as a Growth Management Tool

The extension of major and minor roads and the creation of mass transit lines are mechanisms that many communities use to shape their growth. Extension of an arterial highway will open up new areas for development. Creation of bus lines, or higher capacity rail lines will, over time, generally intensify development in the transportation corridor, especially around stops. What relevance do these examples of using transportation to shape land use have for Chebeague?

Most island residents believe that the cumbersome and expensive system of transportation to and from the mainland serves to somewhat limit development pressures on Chebeague. Though in the 1950s Chebeague residents wanted to increase automobile access to the island by having the State build a bridge to Chebeague from Cousins/Littlejohn, by the 1970s even many of the strongest supporters of the bridge were glad that the bridge had not been built. The difference between bridged Cousins Island and unbridged Chebeague became very clear during those years.

However, though the bridge was never built, the creation of the CTC and its system of mainland parking lots and bus transportation made Chebeague much more accessible to year-round residents than it would have been if the only access was from Portland on the CBL. Significantly increasing parking on the mainland, especially if it was less expensive, would tend to increase this effect. So it is useful to be aware of the impact of transportation costs and ease of access to the development of the island.

In actual fact, the legal restrictions on CTC limit the options for increasing development on Chebeague, even if this was what residents wanted. The agreement with Yarmouth limits the size of ferry and the Blanchard parking lot. CTC's need to break even drives fares and parking

costs, even with a subsidy from the barging operation. Fares and parking costs are unlikely to go down without another source of income or a subsidy from some governmental body.

On the Chebeague side of the water, the ferry landings on Chebeague do not appear to have significantly encouraged increased development in their vicinity. The need for a substantial amount of parking, and the traffic generated are not easily compatible with residential development. At the Stone Wharf there has actually been a concerted effort to reduce the commercial uses on the wharf to reduce the demand for parking and vehicular access.

But if the citizens of Chebeague decide to move part or all of the CTC's operations to Sunset Landing a decision will need to be made about whether to encourage development in that area, and, if so, what kind. What kind of other development would be compatible with a barge landing and/or a ferry terminal? In 1990 the Town envisioned gathering the Town functions that needed barging at the wharf – the transfer station, the salt shed, the public works garage. Part of the purpose of having communities designate growth areas in their comprehensive plans is to encourage clustering of development especially that funded by the Town and the State. Would the Town of Chebeague Island now consider moving the Transfer Station and Public Works garage to a new wharf and barging ramp if they could get state assistance?

Also in 1990 Jimmy Stewart thought about a store, gas station and restaurant. If the wharf itself required State aid to be feasible, a growth area for this commercial development would also make sense.

If, on the other hand, Chebeague residents are interested in having an on-island bus service, it would be necessary to examine what effect its route and stops might have on the pattern of island development. If there were a single satellite parking lot, what other land uses would be compatible with it? If there were a continuous loop bus service, would people walk or drive their cars to the bus stops?

Issues about Transportation and Growth

Should there be a subsidy from the Town or some other level of government to lower parking fees and fares?

What would be the impact on the island's growth pattern of having an island bus.

What would be the impact on the island's growth pattern of shifting ferry/barging to Sunset Landing?

Community Services

For a Town with a year-round population of 333, Chebeague has a surprisingly large range of services. Basic ones are provided by the Town and the Island School District. Many others are provided by non-profits created by year-round and summer residents over many years to provide voluntarily for community needs. Maybe the best thing to do to introduce these inventories is to list the services and organizations. The inventories are divided into Education, Public Services, Non-Profit Services and Recreation and Cultural Resources.

Since the Plan is primarily concerned with Town plans and policies, the central overall issue here is what the relationship be between the Town and these various organization as the Town develops over the coming years.

Town of Chebeague Island

- Assessment
- Cemetery
- Code Enforcement
- Fire Department
- Harbormaster
- Health Regulation
- Public Works
- Rescue
- Town Administration
- Transfer Station

School District

- Chebeague Island School

Non-Profits

- Chebeague and Cumberland Land Trust
- Chebeague Island Community Association
- Chebeague Island Council
 - Chebeague Health Center
 - Chedemption
- Chebeague Island Friends of Folk Arts
- Chebeague Island Grange #576
- Chebeague Island Hall and Community Center
- Chebeague Island Historical Society
 - The Museum of Chebeague History
- Chebeague Island Library
- Chebeague Island United Methodist Church
 - Ladies Aid
- Chebeague Island Yacht Club
 - Chebeague Island Sailing School
- Chebeague Parents Association
- Chebeague Recreation Center

Kids Place
Sanford's Pond
Great Chebeague Golf Course
Great Chebeague Tennis Club
Island Commons
Island Commons Resource Center
Second Wind Farm
The Free Concert Fund

Public Facilities Inventory

The Town of Chebeague Island is made up of a series of unconnected islands that have always, and still clearly do, determine limits on the Town's physical development. Only Great Chebeague has any urban-style public facilities and services such as public roads, fire and rescue service, a Transfer Station for the garbage, a Public Works Department and garage, and several very limited semi-public water supply systems. The other islands have entirely private services but with a very small populations, their need for other public services other than fire and rescue, is minimal. And fire and rescue are ones that are difficult to provide from one island to another.

The Town's public infrastructure is a fairly weak tool for shaping development. In communities with public roads, sewers and water lines, the extension of this infrastructure encourages the spread of new development. By the same token, carefully planned extensions of urban services can shape where new development will occur, as well as insuring that new development is adequately served.

On Chebeague, however, none of these tools are available. There are no public sewers and most houses have private wells. Even the basic road system on Great Chebeague is essentially complete. Just making up for long-deferred road maintenance will be quite expensive. A few more public residential roads may be built over the next ten to 15 years, but more new roads are likely to be private.

The rest of the Town's infrastructure and public services – the Transfer Station, the Fire and Rescue Department, the Cemetery, the Stone Wharf and the Public Works Department – are basic and adequate but are more likely to have to adapt to whatever development occurs over the next 10 to 15 years rather than playing a role in shaping it. The Town also faces the same problem that many other service providers on the island do of needing to have the capacity to meet much higher demand in the summer than during the rest of the year.

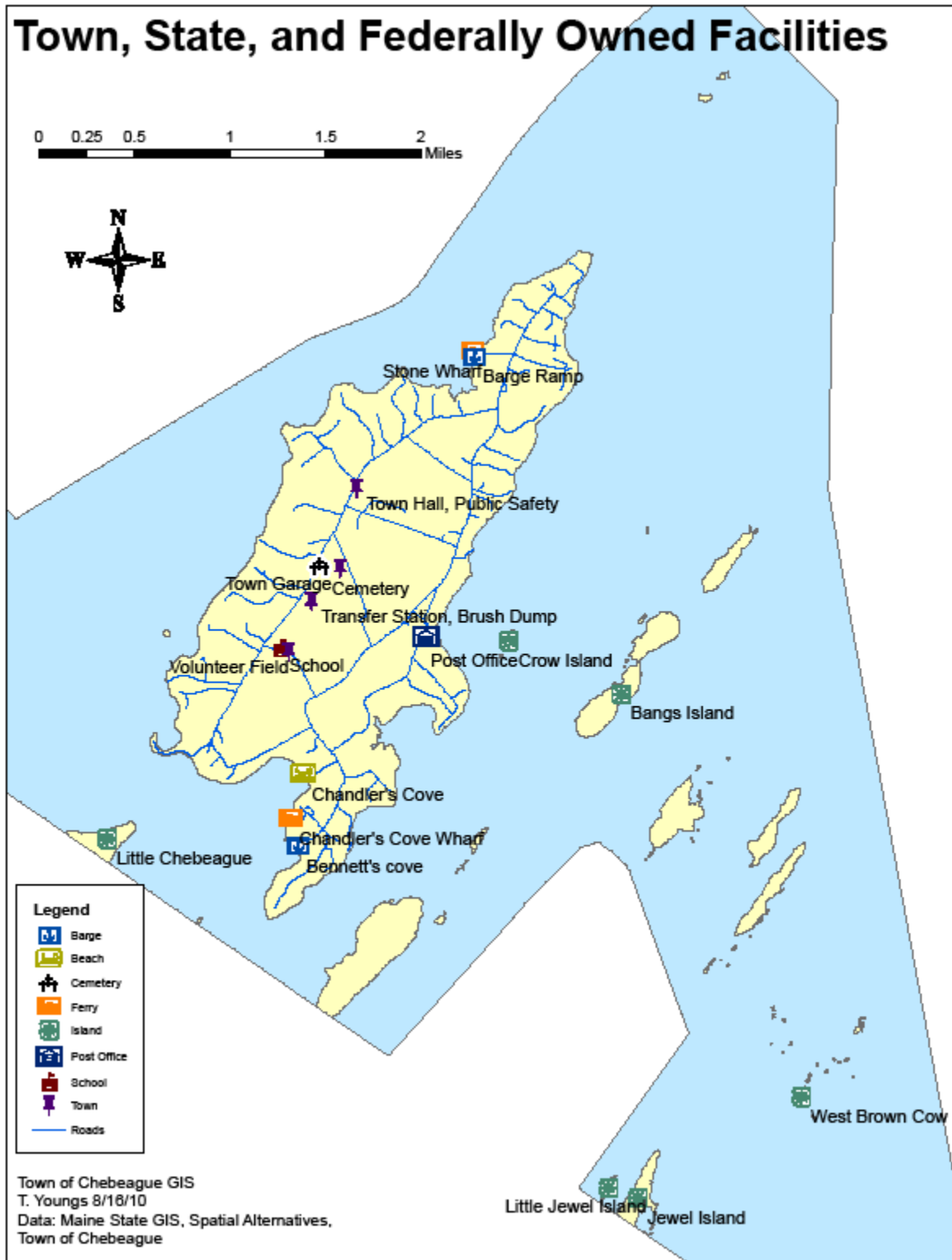
In general people who responded to the planning survey were satisfied with the Town's services and facilities. Nineteen percent said they thought the Town should do more to repair the roads, but 13 percent said they though the Town services were ok as they are now.

Though public and non-profit facilities are located all over the island (Map 1), the Town itself does have two consolidated sets of facilities, one at the Firehouse on North Road and the other around the Church which includes the cemetery, the Transfer Station, the brush dump and the Town Garage.

The construction of the Transfer Station at the site of the previous landfill in 1994, the development that same year of a master plan for the Town land behind the cemetery, and the construction of the new Town Garage in 1995 effectively settles these uses in this location.

The master plan for these Town facilities and the decision to build the Town Garage produced a good deal of disagreement on the island. There were several issues. One was whether these

Map 1:



quite industrial uses were compatible, on the one hand, with the Church and Cemetery, and on the other, with the residential area along Littlefield Road.

The other issue was the placement of these potentially polluting uses in played-out gravel pits which are in the island's aquifer recharge zone. Of course the land fill had been placed there in 1950 because the area was an old gravel pit and gravel continued to be extracted from the area closer to Littlefield Road until the Town Garage was built.

In the end, the aquifer may now be in less danger than it was before the 1990s. The landfill is closed and capped, solid waste is kept in closed containers and hauled off the island, the Town's salt pile is on a concrete slab in an enclosed building, and the diesel fuel is kept in a double-walled tank in a containment enclosure. But the history of the use of this land is a reminder that this aquifer recharge area is quite vulnerable to depletion and potential pollution.

This section deals with a variety of what are commonly "public" service – sewerage, water supply, fire and rescue, solid waste, public works, the Town office and the cemetery. Roads are dealt with in a separate chapter and public wharves are discussed as part of the marine economy.

Sewerage

All buildings on the islands are served by private septic systems. On Great Chebeague, one subdivision from the 1980s has a collective septic system. On the planning survey 11 percent of the respondents particularly said that they hoped the island would not have to have public sewers.

The septic systems vary in age and effectiveness but we have little detailed information about them. A preliminary survey in 2000 indicated that there were 212 septic systems of varying ages, 37 cesspools, 4 outhouses, one permitted overboard discharge system and ten other systems including composting toilets. Seven houses had no wastewater treatment. Since 2000 an undetermined number of septic systems have failed and been replaced, and xxx systems for new houses have been installed.

Though there has been some discussion of it, Chebeague has no requirements for pumping septic systems. There is no pumper on the island; and for some years there was no reliable service from the mainland. However, now, individuals sign up for service with Pat Jackson/Tri-City and when Tri-City has enough tanks for a trip they send a pumper on the CTC barge and take the effluent back to their treatment plant.

Issues/Recommendations about Sewerage (mostly from Water Resources recommendations)

Develop a Town program for paying (a substantial part of/sliding scale depending on soil type) the cost of replacing cess pools [and other obsolete septic systems??] in aquifer recharge areas.

Cess pools are now illegal, but complaints to the CEO are not a sufficient mechanism when the cost of replacement is high.

Do a more detailed survey of septic systems.

This might be able to be funded through a grant. It could focus initially on areas where there are problems of pollution of wells, but ultimately it should map and describe the type of all septic systems as well as identify whether they are malfunctioning.

Institute a Town septic system registration requirement for new construction, including GPS coordinates and design. Five percent of respondents to the planning survey suggested this kind of program.

When septic systems are installed, forms are filled out for the State. It would be a simple matter to have builders and owners submit copies of this material to the Town. This would primarily require education of residents that such a requirement exists.

Maintenance: Develop a Town-administered program to make pumping of septic tanks easier and more regular.

This benefits the public health, but also benefits individual homeowners by extending the life of their leachfields.

A range of options are available: For example, the Town could require regular pumping, notify homeowners when it is time, have a contract with Tri-City to do it and cover the cost through a tax or users fee. Or, at the other end of the regulatory spectrum, the Town could simply serve as a coordinator for getting on Tri-City's list.

Encourage higher density development in growth areas by developing collective septic systems.

Water

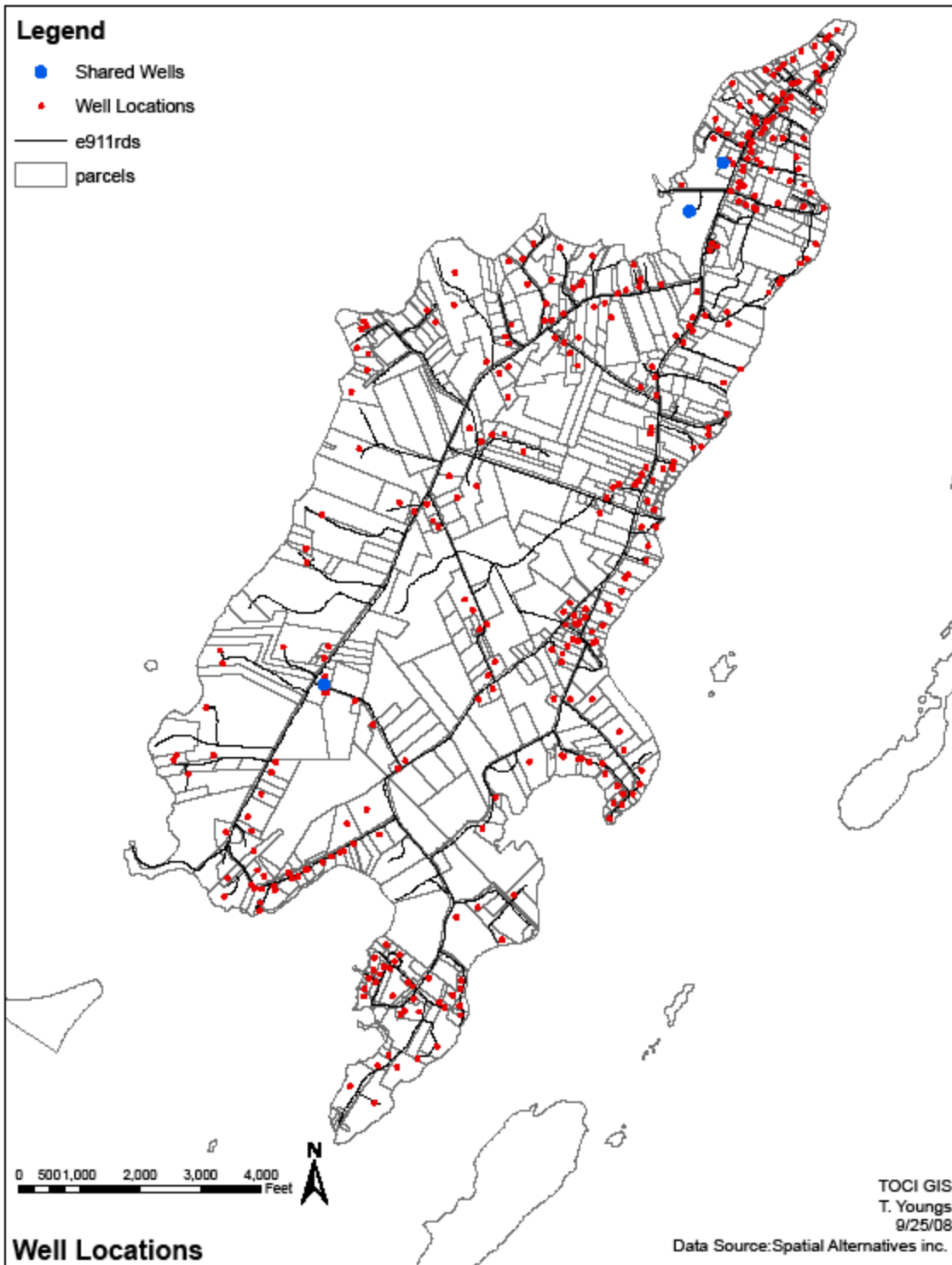
Most of the discussion of water supply on Great Chebeague is in the Water Resources Chapter.

Most houses on all the islands are served by individual private wells (Map 2). A nearly complete survey indicates that in 2000 there were 73 dug and 321 drilled wells, along with six houses served by springs. Seven houses had no water supply and three had some other kind than the ones listed here. In the years since 2000 an estimated xx wells have been added due to new development.

Three areas of the island do have common wells that serve multiple houses. Hamwell, the well of the old Hamilton Hotel and Crestwell, the well for the old Hill Crest Hotel and the modern Chebeague Inn, operate only in the summer. The Cart Road Acres subdivision also has a common well, providing year-round service.

State regulations for water supply define a public or "community water system" as any water system that "has at least 15 service connections, regularly serves an average of at least 25 individuals daily at least 60 days out of the year. There are also several kinds of "non-community[-wide] water systems". "Transient systems serve at least 25 people for 60 days per year, but the people served are not the same each day. This includes facilities like Chebeague's

Map 2: Wells in 2000



Golf Course and the Inn. “Non-transient” systems serve the same people from day to day. The School has a non-transient, non-community well.

The state drinking water regulations require periodic testing these various kinds of wells – a bit more on how much testing??? So the well at the School must have a ????? and is tested quarterly.

The common wells like Hamwell and Crestwell may be community systems. A number of community buildings may have either transient or non-transient non-community wells. The only ones registered with the Maine Drinking Water Program are the School well, and the wells at the Inn and the Golf Club. Other buildings that might qualify for registration are the Hall/Clinic/Library, the Rec Center, and the Firehouse/Town Office. The well at the Historical Society is too close to the septic system to qualify as a public well, so the public bathroom located there has no water for handwashing.

Issues about Water Supply

There may be some public wells and one collective well system that are not registered with the Public Water Supply Program.

Require water conservation measures for new construction.???

Institute a Town well registration requirement for new construction, including GPS coordinates and yield,

Collect comparable data on existing wells and septic systems.

Fire and Rescue

The Town has a combined Fire and Rescue Department, with a common Chief and Captains who head the two divisions. This is a change from the organization when Chebeague was part of Cumberland, where they were in two separate departments. In such a small community a common department makes sense, and the change from one to the other has changed very little about the way the two units operate.

All the fire and rescue personnel are volunteers who are paid only for the time that they are out on calls or in training, though the officers receive nominal stipends as well. The Fire unit has two Lieutenants and the Rescue, one. There are currently 24 fire fighters including three women. The Rescue unit has 12 current members including 7 women. All fire and rescue personnel undergo continuous training throughout the year.

Physical Plant and Equipment

The Department is housed in the Firehouse at 192 North Road. This 3-bay, 4,400 square foot, concrete-block building was built by Cumberland in the early 1980s. Currently the Fire Unit has four trucks in the building and the Rescue has one ambulance. This means that the building houses more equipment than it was built for, and the vehicles are arranged very carefully so that all will fit. The extra vehicles leave relatively little storage space for other equipment. Turnout gear has to be kept in individual piles between the vehicles.

The building also has a small departmental office, two bathrooms and a shower. A general storage room was recently partially converted into an SCBA equipment storage and maintenance room. There is also a meeting room with a kitchen where a monthly dinner and a variety of training sessions are held. The roof was replaced in 2008.

The Fire Unit has a plan (discussed below) for reducing the number of fire engines. If this is carried out, the building will generally be adequate for the Department's needs. It would be useful to be able to hang the turnout gear on the walls; and more office and storage space would be useful. In addition, simply starting up the trucks produces high levels of carbon monoxide in the building which do not fully dissipate even over a period of days. An exhaust removal vent for each truck would relieve this problem. Routine maintenance will include repaving the driveway apron.

The most significant problem with the building is that it is quite energy-inefficient. An energy audit done in April 2009 suggested more insulation, upgraded doors and a change in the water heating system from being part of the oil-fired furnace to being an independent electric water heater. An Energy Block Grant application has been funded to do some of this work.

In the past the Firehouse has been used as a community shelter in times of emergency because it has a generator, a kitchen and bathrooms. Now the Department has received a grant to buy a new 50 Kilowatt generator to replace the old one. It starts automatically and is easier to operate than the previous one. However, serving as a shelter complicates the Department's ability to focus on responding to the emergency. In recent years the Hall has also acquired a generator and has served as an emergency shelter.

Fire-Fighting Equipment

As indicated above, the Department currently has five fire trucks:

One tank:

(#1) – 1850 gal tank with no pump, and

Four pumpers:

4 - 1260gpm/1000 gal tank/foam (2006, replacement in 2026);

6 - 750gpm/1000 gal tank (1972, replacement, see below);

8 – 1000gpm/1000 gal tank (1976, replacement see below), and

9 – 1000 gpm/500 gal tank (1980).

In addition there is one ambulance.

The fire trucks range in age from a 1972 pumper to a 2006 pumper. The Department has a long-range plan for replacing equipment, developed while Chebeague was part of Cumberland. The Department has applied for a grant to replace the 1976 pumper (#8) with a larger, used truck less than five years old. This would allow for decommissioning the 1972 pumper (#6). The result would be to spread the staff over fewer trucks, provide a higher pumping capacity and reduce the crowding in the Firehouse.

The normal life-span of a fire truck is 20 years, but only the newest truck is on that schedule.

The Town has been putting money into a capital account each year toward future replacements.

The Department has eight SCBAs and 40 bottles. Firemen are trained in their use. In 2009 the Department acquired a used machine for filling the tanks so they do not have to be taken to the mainland to be refilled.

Fire-Fighting Operations and Possible Issues

Chebeague has a contract with Cumberland County for fire and rescue dispatch services. We share a radio frequency with Long Island. When a call is made to 911 reporting a fire, Cumberland County dispatch calls for particular engines to go to the scene. Generally more personnel and trucks are dispatched for a fire call than for something like a downed power line.

All of the trucks are kept full of water. Engine 4 goes to the scene of the fire. The other pumpers, and the tank, if needed, go to the water source closest to the fire (Map 2).

Because Chebeague has no public water supply, water for fighting fires has to come either from ponds specifically created to supply water for fire-fighting or from other water sources. The Chebeague Inn is the only building on the island that has a sprinkler system. It draws on underground tanks rather than simply a well.

Chebeague has three formal fireponds with hydrants:

- South Road at the Golf Course
- Firehouse Road near South Road
- Levy's pond at South Road near Charleston Road

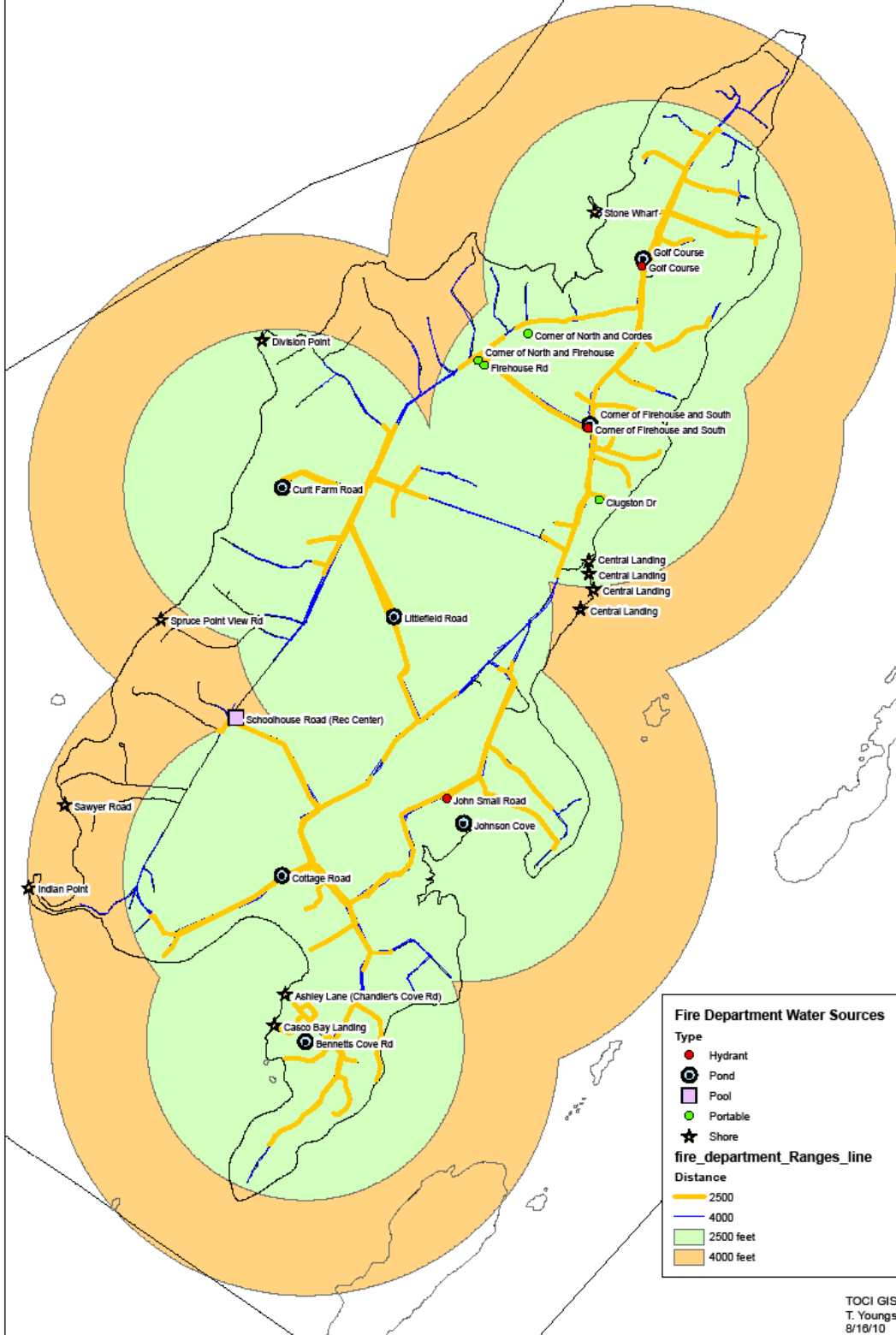
There are also a variety of other "ponds" without hydrants:

- A pond on Littlefield Road (now has a hydrant??)
- A pond on Cottage Road near South Road (may be upgraded with hydrant)
- A pond at the end of Curit Farm Road
- Sanford's skating pond which is drained in the summer
- The swimming Pool at the Rec Center

There are also two portable ponds, one with a 1000 gallon capacity and the other with 1500 gallons. Finally water can be drawn from the Bay from wharves at

- Indian Point
- Ashley Lane
- Chandler's Cove
- Spruce point View Road
- Division Point
- The Stone Wharf
- Four wharves near Central Landing

Fire Department Water Sources Buffered



Map 3

The National Fire Protection standards suggest a water source within 1000 feet of any fire, a standard that is most relevant for communities with public water supply and fire hydrants. The Chebeague Department has 4000 feet of water supply line which allows for coverage of all of the island from some water source. If the distance the water has to be pumped is more than 2500 feet then a second pumper is stationed between the water source and the fire to keep the pressure up.

Moreover, in 2009 the Department was able to replace its 4" hose with new 5" hose. This larger hose has less pounds of friction per 100' of distance the water must be pumped. Added to the larger gpm pumping capacity of newer trucks, this means that more water can be delivered to a fire scene faster.

Adding to the number of fireponds, especially in areas that currently are not close to one would provide additional insurance that the Fire Department will be able to fight any fire anyplace on the island. The section of the Plan on Water Resources had indicated that combination fire and retention ponds may be useful not only for firefighting but also for keeping sediment and pollutants out of Casco Bay. Any pond that is to be used as a formal firepond must be of a minimum size in terms of gallons of water, must have water year-round and must be certified. Malcolm Rice is qualified to do this certification.

However, fireponds do require maintenance – cutting of trees around the edges and dredging of accumulated sediment. Money for this is included in the Town's Capital Improvement and Maintenance Plan. Any expansion in the number of fireponds must be accompanied by a plan and additional money for this maintenance.

Another issue related to firefighting operations is the ability of the fire trucks to reach all houses and fireponds on the island. Many of the island roads are private ones and their width and maintenance is quite varied. The Curit Farm Road firepond is not as accessible as others that have hydrants on main roads. When new road standards for the island are considered it is important to make accessibility by emergency vehicles an important criteria for both public and private roads.

Wild-Fire Hazard

In general, houses on Great Chebeague are moderately at risk from wildfires. Some Town actions and some public education might reduce the existing risks or improve response to fires. Since 1983 there have been seven wildfires burning a total of 2.8 acres. Two were the result of debris fires, three were started by children and one had been a campfire.

In 2008 Island Institute Fellow Thea Youngs did a wildfire hazard assessment for Great Chebeague funded by the Maine Forest Service as part of their wild-Urban Interface program which tries to reduce fire hazards in semi-rural communities.

Thea assessed a random sample of 102 houses, almost a quarter (22 percent) of Great Chebeague's houses. The Forest Service's criteria measuring risk were:

- Elevation and slope – fires gain strength up hills
- Space around each structure

The nature of the surrounding vegetation,
Building materials
Density of structures
Presence of other flammable materials – woodpiles, gas tanks
Roads – width, condition and turnaround space
Signage for roads and houses
Water availability and response time

The scoring system classified the risk to each structure as:

Low (9-42 points)
Medium (43-85 points)
High (86 to 128 points)
Extreme (129-171 points)

Overall, the scores for houses on Chebeague ranged from 47 to 124, meaning that no houses were in either the lowest or the highest risk categories. The average for all the houses was 90, just into the high range, with 61 percent in the high category and 39 percent in the medium range.

The primary sources of risk were the lack of “defensible space” around houses, meaning that houses were more likely to be closely surrounded by trees, bushes, tall grass, leaf litter – materials that could easily burn and where burning embers could easily reach the house. On Chebeague, it hardly comes as a surprise that two thirds of the houses had less than 30 feet of defensible, open space around them, and that only 6 percent had 70 or more feet of open space. Many houses are also surrounded by conifers which pose a greater risk than hardwood forest. Many buildings also have combustible sheathing, though most have fairly fire-proof roofs.

Fighting a wild-fire on Chebeague is also potentially made more difficult by the many long, narrow, dead-end private roads and driveways on the island and the lack of access to less developed areas. The lack of street signs and house numbers is sometimes a problem for both fire and rescue though both groups have maps that show the location and number of every building on the island.

These findings are fairly obvious to anyone familiar with Chebeague’s woods and roads. And few people may wish to revise the island landscape or its habits in order to make all houses safe from wildfires. Doing so would make it look more like the Chebeague of 75 years ago, but with more houses. But public education about wild-fire risks and some Town action could improve the level of risk somewhat.

Rescue

The Department has a 2003 Ford ambulance. The 12 rescue personnel provide the minimum staffing for the unit. Most have been trained during the past three years, so they are just gaining experience. There is more turnover of personnel among rescue than fire department, so there is a need to offer a regular EMT course to bring in new personnel.

Rescue Operations

When a call for a rescue is made to 911, the Cumberland County Dispatch calls all rescue personnel on the island to respond. First Responders go directly to the scene. Other personnel go to the Firehouse to get the ambulance. Because of the size of the island and the location of the firehouse near its center, response times are generally fast.

If the patient needs to be transported to the hospital, his or her condition is stabilized if necessary, and then s/he is taken to the Stone Wharf by the ambulance. At the Wharf a CTC captain and deckhand have also answered the rescue call by going to the boat. The patient still on the stretcher is put onto the boat and is taken to the Cousins Island Wharf where the boat is met by a Yarmouth ambulance which transports the patient to Portland.

In unusual cases, when a patient's life depends on quicker action or higher levels of care than can be provided by the island personnel, the patient may be taken to the mainland by Life-Flight. The helicopter can land on the ballfield even at night, and the Department has a protocol for securing the area with fire engines. If for some reason the helicopter could not land on the ballfield, the Golf Course could be used instead.

Mutual Aid and Agreements with Other Organizations

An island community served only by passenger ferries has to be largely self-sufficient in its equipment. There is no way to take trucks from one island to another or to and from the mainland. In addition, the equipment must be reliable since repairs are not easy or instant.

On the other hand, personnel can, in an emergency, come from or go to other islands or even communities on the mainland. The Department has mutual aid Memoranda of Understanding for firefighting with Long Island, Yarmouth, Freeport and Cumberland, and with the Chebeague Transportation Company to provide the transportation to carry this out.

The Rescue Unit has the closest regular working relationship with other towns and organizations. Every patient who is transported to a hospital on the mainland must be taken on the CTC ferry and met by an ambulance on the mainland. The primary agreement for mainland response is with Yarmouth Rescue, though other towns may sometimes respond under mutual aid agreements.

The rescue service is provided free to everyone on the island. Yarmouth Rescue does bill health insurance companies for the ambulance, but if no reimbursement is forthcoming, it is not pursued on Chebeague.

The Rescue also has a MOU with CTC concerning transportation to Cousins Island which is provided at any hour of the day, free of charge.

Finally Chebeague has a MOU with the Town of Long Island to respond to Chebeague rescue calls on the outer islands. The reason for this is that the outer island are all located to the east or south of Great Chebeague. The CTC ferry is located on the north-west side of the island and cannot respond in a reasonable amount of time. Long Island, on the other hand, has a dedicated rescue boat moored on the north side of the island, with fairly direct access to Chebeague's outer islands.

Fire and Rescue Issues

Voluntary service: The present system of voluntary fire and rescue services depends on having a sufficient number of volunteers who are on the island, able to respond to calls during the day as well as at night, and willing to spend the time on training and answering calls. As long as the on-island economy employs as many people as it does now, and the number of fire and rescue calls does not grow dramatically, a suitable pool of volunteers will probably continue to exist. But a change in either one of these variables could unbalance the system. The Rescue has more turnover than the Fire Department. This means that it needs to be able to offer an EMT course at regular intervals to recruit and properly train new members.

Street Standards: Some driveways and private roads are marginal for access by a fire truck – narrow, rutted, with overhanging tree limbs and dead ends where it is difficult to turn a truck around. Any road standards adopted by the Town must provide for adequate access by fire engines and the ambulance.

Street names and house numbers: It is unrealistic to expect all fire and rescue personnel to know where everyone lives, especially in the summer. When E-911 was adopted in Cumberland County all roads were given names and all house lots were given numbers. This means that when a call is made to Dispatch, the dispatcher sees on a map exactly where the call is coming from and relays the street and house number to the Fire or Rescue personnel. The Chebeague Fire and Rescue Department now provides maps to all members showing all the road names and the numbers and locations of houses. This reduces the need for street signs. However, especially at night, it is often difficult to tell one house from another, especially when the only numbers are located on mailboxes which sometimes are in groups along a main road, not close to the house itself.

Fireponds: Adding to the number of fireponds, especially in areas that currently are not close to one would provide additional insurance that the Fire Department will be able to fight any fire anywhere on the island. The section of the Plan on Water Resources had indicated that combination fire and retention ponds may be useful not only for firefighting but also for keeping sediment and pollutants out of Casco Bay. Any pond that is to be used as a formal firepond must be of a minimum size in terms of gallons of water, must have water year-round and must be certified. Malcolm Rice is qualified to do this certification.

However, fireponds do require maintenance – cutting of trees around the edges and dredging of accumulated sediment. So any expansion in the number of fireponds must be accompanied by a plan and money for this maintenance.

Public Education: Education about all aspects of fire-fighting and rescue on the island is useful so that residents are not reluctant to call when they need help and they feel responsible to do what they can to make fire and rescue response as efficient as possible.

Public education can also be used to reduce the danger from any kind of fire. Households can be encouraged to have emergency plans as well as smoke and carbon monoxide detectors and fire extinguishers. They can also reduce their risk from wild-fires by increasing defensible space

around houses and reducing fire hazards that result from home construction, maintenance and gardening. A variety of more detailed suggestions are provided in the Chebeague Wildland-Urban Interface Hazard Assessment Report.

Police

The Town contracts with the Cumberland County Sherriff's Department for police services. For several summers they assigned a full-time officer to the island. He and his family lived on Chebeague. A cruiser was brought out at the beginning of the summer and returned to the mainland at the end. But it is difficult for the Sherriff's Department to find candidates for this duty, so this coverage is now quite uncertain.

During the winter there is an officer who comes out one day a week.

Issues

The summer police officer has been provided with housing by the Town. Since affordable housing is scarce on the island in the summer several arrangements have been made. Having a regular arrangement would be helpful.

In addition the Police Officer does not have an office in the Town Office.

Solid Waste

The Transfer Station on Chebeague, informally still called the dump, is the place where residents take their refuse for disposal, and where they meet and socialize with their friends. It is also the single most expensive facility/service operated by the Town of Chebeague Island. And the yearly cost is rising.

History

Chebeague had no Town dump until 1950 when the Chebeague Island Council identified the present site, an exhausted gravel pit, behind and to the west of the Cemetery, and convinced the Town of Cumberland to buy it. Before that, people fed the slop to the pigs, burned what was burnable and dumped the rest in a corner of their property where today you can find old bottles, broken kerosene lamps, pieces of crocks and china, metal cans, and pots and pans. From 1950 to 1994 the Town operated a traditional rural landfill in which everything from old cars to potato peelings was thrown in together and periodically buried. Dump picking was a fruitful pastime. The Historical Society has many artifacts and documents rescued from the old dump. That dump was not licensed by the State.

By the 1980s this kind of landfill was recognized by State and local governments as a hazard to a community's groundwater. Maine passed the state's first Waste Management and Recycling Plan in 1989. On Chebeague, with a sole source aquifer, the groundwater threat was a particularly significant danger. The landfill was located in an aquifer recharge zone. The 1989 *Community Groundwater Study* for the whole Town of Cumberland stated that "the site of the landfill is in a very disadvantageous position with respect to groundwater recharge" and recommended that the dump be closed as soon as possible.

The State set a deadline for Cumberland of closing the dump by 1988. A plan for the construction of a transfer station was prepared in 1987. The trash containers would be taken off through Cousins Island. When this plan was made public, residents of Cousins Island reactivated their suit against CTC and obtained a court order prohibiting the transportation of solid waste across Cousins Island.

This left the issue of closing the dump in limbo, but people on the island kept on asking the question of when the dump would be closed. Several proposals were made for taking the waste off and beginning to recycle. The Legislature extended the deadline for the closing of landfills to 1993. Chebeague was not alone in having a dump past its closure deadline – 206 others were in the same boat compared with 159 that were closed, partially closed or inactive. In May 1993 the Town applied to MEDEP to build a waste transfer station.

An issue that was raised repeatedly at Town Council meetings in 1992 and 1993, and then at the Planning Board hearing on the Transfer Station, was what barging site on the island would be used for barging the trash containers. A number of Chebeague residents argued strongly that even if the containers could not go through Cousins Island, they should be taken off Chebeague at the Stone Wharf or at Sunset Landing if it were developed, rather than at Bennett Cove. The Cumberland Council resisted having a policy to this effect, however, and it became only an informal guideline.

Ultimately the plan for the Transfer Station was approved by the Town and DEP. In 1994 the old landfill was capped and a series of monitoring wells were drilled around it which are required to be tested every year. The expense of disposing of increasing amounts of refuse, which had been largely “externalized” by dumping it on the island without any environmental protection measures, would now have to be “internalized” by paying to have it taken away to Regional Waste Services’ new incinerator.

Current Transfer Station Facility

Chebeague has no curbside pickup of trash. All residents, as well as contractors working on the island bring their trash to the Transfer Station which is open on weekends and on one afternoon during the week in the winter and two afternoons a week in the summer. There is no special dump sticker; anyone on the island at any given time can use the Transfer Station.

The Transfer Station includes seven somewhat separate operations:

- the brush dump for organic yard waste, including wood but not stumps.

- the municipal waste compaction facility for general waste using two closed, roll-off, 50 cu. yard containers and a 2 cu. yard stationary compactor.

- three separate bins for the disposal of construction waste, cardboard and metal

- An area for the disposal of appliances,

- bins for recycling, now single-stream

- redemption operations, provided by Chedemption, a subsidiary of the non-profit Chebeague Island Council

- the collection of toxic waste such as batteries, fluorescent light bulbs, computers, and tires.

There is a Transfer Station Attendant on duty when the Transfer Station is open. The Public Works crew helps with the free dump day in the summer and with compacting the contents, such as the cardboard, in open bins. Chedemption is staffed by volunteers, about 70 people during the course of the year.

Except for the Chedemption shed, which belongs to the Chebeague Island Council, all of the bins are rented from Pine Tree Waste. They designate specific bins for Chebeague and have at least one extra of each type on the mainland for changing out. The Town owns the compactors. When the Transfer Station was built, it was the consultant's recommendation to rent rather than to have the Town buy the bins because then the company they were rented from would maintain and replace them. However, this does mean that the construction debris and metal bins which have large doors at the end are sometimes hard to open and close.

This system of bins and compactors is not the only configuration possible for a Transfer Station. During the Transition from Cumberland to the TOCI, Waste Management was interested in bidding on the contract until they found that their equipment was not compatible with what was already there at the Transfer Station.

The Transfer Facility, itself, is a large metal shed open on two sides, with a concrete floor. It holds two compaction bins, three open bins and a small building used as an office by the Transfer Station Attendant. In addition outside the shed there are two closed recycling bins and a small shed that is used for the bottle redemption operation. There is electric power which is needed to run the compactors; but there is no running water or bathroom. There is a 1500 gallon tank underneath to collect runoff water from the concrete slab. The site is surrounded by a chain link fence with a gate to the entrance road and one to the brush dump, beyond. There is a berm with trees that separates the Transfer Station from the cemetery. Sometimes, however, when the Transfer Station is open at a time when a funeral is occurring, the Transfer Station noise can be intrusive. Because of this it is sometimes closed during funerals.

The brush dump is in a former gravel pit. It is separated into areas used for incoming brush and logs, a pile of chipped brush and wood, and an area for the storage of dirt dug up by the Town in its normal operations. A gravel road runs through it, connecting the Transfer Station to the Town Garage on Littlefield Road.

Volume of Trash

The volume of solid waste taken to the Transfer Station has undoubtedly increased since it opened, but systematic data on this is not readily available. E.C. Jordan estimated the likely volume in 1989. However their estimates for the population of Chebeague were somewhat high – 380 year-round residents and 2500 people in summer. That population was expected to generate 1.2 tons of solid waste per week in fall, winter and spring, and 15.8 tons per week during the summer, based on generation rates of .9 pounds per day for year-round residents and 1.8 pounds per day for summer people. They made no estimate for construction debris and this study was also pre-recycling. Under these assumptions the estimated yearly waste would have been between 225 and 300 tons per year.

At the time of the 2006-07 transition to the new Town, Cumberland said that the 2006 municipal waste (not including construction debris or recycling) was 275 tons.

In 2008 a total of 470.33 tons of solid waste was transported to the mainland by Pine Tree Waste. An estimated 18.7 tons of redeemable bottles and cans was also sent by Chedemption to the mainland for free on the Casco Bay Lines. So the total was 489 tons. Of the solid waste handled by Pine Tree, almost half (48 percent or 225.7 tons) was general “municipal waste”, while just over a third (34 percent) was construction debris and 16 percent was recycled materials.

Almost half (47 percent) of the Town’s share of the waste came in the four months between June and September, rising to almost 80 tons in the month of August alone. Chedemption’s yearly pattern is even more extreme, with 71 percent of the bottles and cans being brought in during those four months. This makes clear that, as with so many other aspects of life on Chebeague, the Transfer Station must be capable of handling more than 90 tons of solid waste per month even if the actual average monthly amount is less than half of that (40.75 tons).

The change from separated to single stream recycling seems to have resulted in bins that are not as compactly full as before.

Operations

Chebeague has contracted with Pine Tree Waste, a division of Cassella. Since Chebeague is not a member of RWS, sharing in their debt payments, the rate for disposal is in the range of \$75 to \$80/ton compared with the Town of Cumberland’s rate at the time of transition, which was \$165/ton.

The actual decision of when to tell Pine Tree to come to haul off a bin is made by the Transfer Station Attendant. Pine Tree’s truck(s) brings out empty containers and exchange them for the full ones which they take back to Portland. Where they are taken for final disposal is up to Pine Tree. The barging is done by Lionel Plante. Despite the original effort to have the barging go through the Stone Wharf, Plante charges \$600 per load from the Stone Wharf and \$500 from Bennett Cove which is more convenient to Portland and less congested. This has created problems discussed in the inventories on the Marine Economy and Transportation to the Mainland. In 2010 a compactor was added for the single-stream recycling which is expected to somewhat reduce the amount of barging required.

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Once a year in August the Town has a “bulky waste weekend”. Residents can bring for free large items that they would usually have to pay for. Pine Tree sends out additional containers and then takes them off during the week after the collection.

Revenues

Disposal of household yard waste, trash, cardboard, recyclables and redeemables are all free of charge. Larger users pay fees, as do households when they dispose of things like white goods and fluorescent lightbulbs

Toxic Waste

When the Transfer Station was built residents were not allowed to bring any trash that contained toxic materials except car batteries. However State law has changed and now people can bring batteries of all kinds as well as electronics and fluorescent light bulbs. There is no specific place for these things to be kept, so they are simply piled in the rear of the Transfer shed.

What happens to things that Clean Harbors doesn't take or do they take it all?? Once a year Clean Harbors comes out for a day to take toxic things that still cannot be brought to the Transfer Station like mercury thermometers, paint, pesticides and herbicides.

Chedemption

Chedemption was formed to provide a way for people to bring redeemable bottles and cans to the Transfer Station but not to lose the money that could be gotten back for them. It is organized and run by the Chebeague Island Council, an island non-profit.

At the Chedemption shed people separate their redeemables into containers for plastic bottles, beer cans, soda and juice cans, beer bottles and wine bottles. The plastic bottles and metal cans are collected in large plastic bags. Volunteers pack the glass bottles in banana boxes, separated into 5cent and 15 cent boxes. These are then stored in a trailer (kept at the Transfer Station in the summer). When the trailer is full, other volunteers take the trailer down to the Chandler's Cove Wharf and put the boxes on pallets. Casco Bay Lines takes both the pallets of boxes and the loose bags into Portland without charge. They are picked up there by East End Redemption. In the summer this work is quite labor intensive.

The money that East End Redemption pays to Chedemption is divided each year among 13 non-profit organizations on Chebeague. These organizations each staff the Chedemption shed for one week during the summer when it is very busy. A small group of regular Chedemption organizes the shipping, does the sorting and packing in the off-season and organizes the volunteers in the summer.

The volume coming into Chedemption has remained quite stable over the years since it was fully operational. Revenue has ranged from \$6,218 in 2001 to \$7,221 in 2002, averaging \$6,939 with expenses averaging \$483, so the average payout to each group has been \$507/year. Even the

closing of the Inn in the summer of 2007 made little difference, though the return of weddings may increase the volume.

Most year-round residents seem to be aware and supportive of the redemption effort. They bring their returnables and know what isn't redeemable. In the summer, with many visitors from other states passing through, the level of understanding of how the redemption works is less and probably fewer of the returnables get to Chedemption. Having volunteers present throughout the day in the summer to explain the system helps increase the proportion of redeemable bottles and cans that are kept out of the Town's general waste stream.

Chedemption has the capacity to continue to operate at this level as long as it is possible to recruit 70 volunteers over the course of the year. Increasing the hours/days that the Transfer Station is open would be a major challenge to man with volunteers.

The Brush Dump

The brush dump occupies the area of the old gravel pit to the east of the Transfer Station. While the space is generally adequate, it could barely accommodate the amount of brush that was brought in after the Patriot's Day storm in 2007. For \$7 – 8,000 the Town hires a huge chipper to be brought out once a year to chip up all the wood and brush that has been brought in. The volume of chips can get quite large and it would be useful to find more ways to use them. Now they are primarily used by residents and professional landscapers as mulch. However there is a possibility that, using a different chipper, they would be suitable for fuel for a high-efficiency heating system.

Issues:

In general, the Transfer Station works quite well. In the winter it is swept by a cold wind and people hurry in and out. In the summer it is generally very busy with many cars and groups of people talking. On bulky waste day it is a managed chaos. Even so, there are always issues:

Maintenance: Should there be a general maintenance plan and schedule for the facility?

- The capped landfill must be mowed.

- Monitoring wells must be tested

- 1,500 gallon holding tank must be pumped and hauled off the island, like regular septic waste.

- The facility should be washed down occasionally.

Water Supply: Should there be a supply of water to the Transfer Station?

- In summer only?

- Piped from where?

- Collected rainwater?

Capacity:

Obviously the more people on the island reduce what they bring to the Transfer Station, the lower the cost will be. The Town could undertake efforts to reduce the amount of trash shipped off the island by:

- Community composting

- Energy generation using the wood in the brush dump.

Revenues: Who should pay how much? Not so much that people dump in the woods. Pay per bag instituted in Cumberland but not on Chebeague.

The Town Office

Chebeague has only had its own Town Office for two years since it became an independent town. Since there was no money to fund the transition from the Town of Cumberland to the Town of Chebeague Island, it was necessary to find an existing space that could be easily and inexpensively renovated to serve as the Town Office. The space chosen was a three-room area at the west end of the Public Safety Building that had been used as storage for the Rescue and as an office and efficiency apartment for the policeman who came to the island during the summer.

The result has been adequate to get started in, but it is cramped, lacking in any privacy and very noisy. The two Town Clerks serve customers at a counter in the first room. The Harbormaster, Assessor and Code Enforcement officer share two desks in the third room. The Town Administrator uses a small office in between. Anyone walking from the room with the counter to talk to one of the Town staff in the back room has to walk through the Administrator's office.

The building is made of concrete blocks on a concrete slab, with tile floors. When there are 6 or 7 people using the space, the noise is quite distracting. This problem is mitigated by the fact that the Office is closed to the public one full day and two half days each week and only two of the people using the office are full-time employees. It is possible to find the Town Office occupied and quiet – but not often. There is also little space left over for storage for files, supplies, maps, the safe or even a coat-rack. Over time the employees may change the arrangements, and the number of full and part-time employees will fluctuate. But the space will always be small and probably noisy.

In addition to the Town Office, the Town also has a pick-up truck for the use of the Town staff:

Issues

In the Town's first three years of existence the problem of the size of the Town office has gotten worse. However, it is not a highly visible or high priority issue for residents. The site of the Public Safety Building is probably large enough to accommodate an expansion at some point.

Public Works

The Public Works Department maintains the Town's infrastructure including its roads, culverts, ditches, wharf, floats, transfer station and the various pieces of mechanical equipment. The Town Garage and a salt shed and diesel fuel storage tank, were built in 1995 on the large parcel of land that includes the closed landfill, the Transfer Station and the brush dump. The previous Town Garage in the District 8 schoolhouse at North and South Roads was given to the Chebeague Island Historical Society.

The Public Works crew is made up of two full-time employees, supervised by the Town Administrator.

The garage is a prefabricated metal industrial structure, 60' x 60' set on a concrete slab, with unobstructed overall eave height of 20'. The insulation is R 19 (6 inches) in the walls and the roof, with 4 inches of insulation in the interior walls. It is heated by a waste oil furnace, supplemented with electric baseboard heat in the restroom and office. Water is heated with electricity.

The salt shed is conventional construction on a concrete slab. It fully encloses the salt.

The tank for storing diesel fuel is double walled and is set in a high-walled containment tank.

The Public Works department operates:

- 2003 Chevrolet 1-ton dump truck. To be replaced in 2013.
- 2000 dump truck with hi-lift
- 1981 dump truck. To be replaced in 2015.
- 1986 GMC Boom truck for moving floats
- Blade plow
- Hopper sander
- Swenson sander
- X blade snow plow
- Ford Backhoe/loader, four wheel drive. To be replaced in 2010
- Bulldozer
- Road grader
- Trailer
- Screening plant
- 3000 Gal skid tank?? Two of these??
- Air compressor
- Plasma cutting unit
- High pressure washer
- Diesel pump

Issues

In the Capital Improvement and Maintenance Plan one of the primary concerns of the Department is having an economical and lasting source of gravel and sand. The CIMP suggests licensing a small (smaller than 5 acres) gravel pit.

The Cemetery

The Chebeague Cemetery is the only active cemetery on the island. Though it is located next to the Chebeague United Methodist Church, it belongs to the Town. It is one of the records of Chebeague's history. Its six acres is part a large piece of Town property that since World War II has come to be used for the dump, and then the Transfer Station, the brush dump and the Town Garage.

Since at least the early 20th century, the cemetery has served both year-round and summer families. Since in many families, earlier generations were year-round residents and in later ones

have become summer people, or vice versa, the distinction is somewhat academic. In addition there are a group of plots owned by people from Long Island, though it now has a cemetery of its own.

Cemetery Capacity

The cemetery has grown over the years. The initial parcel was extended to the east and south in the late 19th century. Since that time it has been extended to the west in two sections. The most recent addition was designed in 1990 by Frank Cofran, a summer resident. The oldest section has an unknown number of plots because no map of all of it exists (there are 84 plots shown on the existing map). The next area to be opened added about 108 plots, the third, about 72 plots and the next about 115. These were generally 8-lot plots, for a total of approximately 3030 single lots. Almost all of these plots have been sold, though sometimes lots are transferred from one owner to another. The last section was divided into 396 individual lots, with 120 particularly small ones for cremations. A few additional plots have been added in small, unused areas. This suggests that there are over 3430 individual lots in the cemetery now.

Of course the potential number of lots and the number actually occupied are two quite different things. Normally families buy plots and fill them over several generations. Given the nature of the Chebeague Cemetery's records, it is impossible to know how many have been used and how many remain. At least some old family plots have only a few actual graves and are never likely to be filled. Unused lots can be reclaimed by the cemetery if, after 75 years, there are no remaining descendants of the original owner. But as a practical matter, this is difficult to do.

Projection of Demand

Since the cemetery is the only one active on the island, and has been growing gradually for xxx years it is important to think about how much land will be needed not just in the next ten years but in the next hundred. This calculation must also consider that the cemetery serves both the year-round and the summer communities.

Since 1990 about 90 lots in the newest section have been sold – an average rate of almost 2 per year. At present there are about 300 lots for sale which would suggest that the cemetery will not need to be enlarged for many years.

Since the cemetery is part of a larger Town-owned parcel, there is some room for expansion. At the western end, the cemetery is already hemmed in by the Transfer Station to the south and a private lot to the west. However, along the southern boundary at the eastern end, there is room for expansion back towards the brush dump, though this area also serves as the buffer to the brush dump.

While the Cemetery Committee does not see a need for expanding the cemetery soon, they would like to formalize with the Town the area for future expansion.

State regulations related to cemeteries require that they be 100 feet from any house and 200 feet from water any source of drinking water.

Cemetery Administration

When the Town was part of Cumberland the Cemetery was managed by a Cemetery Committee that managed all the Town's cemeteries. It ran the cemeteries fairly independently from the Town, managing sales of lots, burials and its own finances. When the TOCI became independent, the Selectmen appointed an island Cemetery Committee which maintains the cemetery and runs it from day to day. The financial administration is done by the Town

However, there has never been a formal definition of the charge or responsibilities of the Cemetery Committee, or of the terms of its members. Nor have the responsibilities of the Town been specified. The Committee would welcome having these issues clarified.

There has probably been little change in the cemetery administration over the past 50 years. It has been run by Dick and Dianne Calder since 1988, and by Ethel Ross for many years before that. The records are handwritten in a series of spiral notebooks for accounting, manila folders with copies of deeds from Cumberland, plus a three-ring binder of other deeds. There are three maps at different scales of the old, intermediate and new sections. These are all kept in the Calder's house. Much of the other information about the cemetery is in Dick and Dianne's heads and they are getting older. This is an administrative pattern characteristic of a small town, but it is a fragile system – subject to the loss of critical information from death or fire or having the records taken to the Transfer Station by accident.

Aesthetic Issues

It is not ideal to have the cemetery next to the Transfer Station which is noisy and has industrial-type lighting. However, the buffer of trees between the two has grown up over the years, and the Town has been willing to close the Transfer Station at times when a funeral is being held in that area. When the cemetery expands back toward the brush dump, this same issue will need to be dealt with.

Issues

Charge for, and terms of, the Cemetery Committee. Responsibilities of Town adm.

Record keeping,

- Paper records need to be preserved

- For ease of administration they should also be computerized.

- Need one map of whole cemetery

- Collect information on cemetery administration and maintenance from Dick and Dianne

Repair to equipment shed

Water supply to west end

Formalizing future expansion area with the Town

Power and Communication

Power

There is a great deal of public interest in alternative sources of power on Chebeague. In the planning survey about a third of all the respondents wrote about their interest in developing some form of alternative power for the island. Many people suggested a variety of possibilities – wind, solar, biomass, tidal and geothermal energy. The largest proportion (24 percent) were

interested in wind energy. In part because of this interest there is a short chapter on energy policy included in this Plan.

Electricity: three phase power is supplied from both South Portland and Yarmouth. Almost all the service is above ground. On a heavily wooded island, this means that the island experiences a fair number of power outages, but residents are generally prepared, and there are community shelters for periods of extended outage. CMP keeps the trees next to power lines trimmed. CMP also has a special crew with a boat that serves the islands and they come as soon as they can when there are problems.

Communications

Improved communication technologies were also a major interest to people who answered the planning survey. Eighteen percent said they wanted better internet service, while 6 percent wanted cable service to the island. On the other side, 8 percent of respondents said that Chebeague.net is doing a good job. Similarly, 16 percent of respondents said they hoped the island could have better cell phone service. Only two people said explicitly that they would not like to see a cell phone tower on the island.

Emergency dispatch frequency from Cumberland County is shared with Long Island.

Chebeague.net: local provider of high-speed internet service.

No cell towers

No cable

Telephone – plain vanilla – no internet by phone.

Satellite TV: moderately consistent reception.

Issues

Should the Town explore ways to improve high speed internet and cell phone service on the island to encourage economic development?

References

Master Plan for Town Property: Chebeague Island. Town of Cumberland, March 1994.

Sevee and Maher Engineers. *Summary of Chebeague Island 2001 Groundwater Study.* Cumberland ME: Sevee and Maher, February 2002.

Thea Youngs. *Wildland-Urban Interface Communities at Risk Hazard Assessment and Mitigation Strategies for Chebeague Island ME.* (Rockland ME: Island Institute, 2008).

Inventory of Community Services Provided by Non-Profits

[CTC is dealt with under Transportation to the Mainland; The Historical Society is dealt with under History and Archaeology; The Land Trust is discussed in the Open Space Inventory; affordable housing is discussed in the Housing Inventory. There is a separate inventory for Recreation]

Chebeague is a small community that is always somewhat isolated and sometimes completely cut off from the mainland. So islanders are pretty self-sufficient. They also have a strong sense of community that values the independence of people but is very supportive when there is need. This has led to the creation of many social and service-providing organizations over the years. Since WWII, and especially since the 1980s many of these organizations have been formally-created 501(c)3 non-profits.

Table 1: Chebeague Non-Profits and Map 1

- The Island Commons
 - Island Commons Resource Center
- The Chebeague Recreation Center
 - Kids Place
- Sanford's Pond
- The Chebeague Parents Association
- The Chebeague Island Library
- The Chebeague Island Hall and Community Center
- The Chebeague United Methodist Church
 - The Ladies Aid Society
- The Chebeague Historical Society
 - The Library of Chebeague History
- The Chebeague Island Council,
 - The Health Clinic
- The Chebeague Island Community Association,
 - owns one affordable house
- The Grange

These organizations involve many year-round and summer residents as board members, regular volunteers, participants in fund-raising events, simply as members and, of course as donors. Even in winter, weekday evenings on the island are filled with organizational meetings. The non-profits are social as well as service-providing organizations. Christmas parties, lectures, fairs and other social events are held throughout the year.

These organizations provide a number of services, such as recreation programs and library services, that in other communities are provided by the Town. Their non-profit status on Chebeague was partly a response to the lack of Town services on the island. But it also reflects the independence of Chebeaguers who have the capacity to organize and fund their own services

Map 1



in their own way. This seems to have suited Cumberland's approach to dealing with the islands. The Town or SAD51 provided land (for the dump once the site was identified by the Island Council, and for the Rec Center), a building (the old Town Garage to the Historical Society) or some operating support (to the island doctor in the 1950s and 60s and to the Library/Health Center/Hall complex and the Recreation Center now).

This wide variety of community organizations, services and activities raise several issues. Two kinds will be discussed here. One is what services are available and what gaps in services may need to be filled. The other is what should the relationship between the Town and these non-profits be?

Services Available

Many island non-profits – the Church, the Library, the Recreation Center and the Health Clinic, the Hall -- serve all age groups and both year-round and summer people. But there are two groups, children and the elderly, that are the particular focus of some organizations because they are more in need of services and less able to get to the mainland. So the Commons provides assisted living to the elderly and the Island Commons Resource Center provides information about services to the elderly. Kids Place provides day care for children.

Children

Children are a natural focus of any small community, and Chebeague is very family-oriented with more multi-generational families than many communities on the mainland. A separate chapter of this Plan deals with education. In addition, Chebeague's kids made up only 19.4 percent of the 2000 and 19 percent of the 2008 population, lower than the state average of 21.3 percent of the population under 18, which is the lowest proportion of any state in the nation.

Children are key to the survival of Chebeague's year-round working community. If families can't work and provide their children with a good life including education, recreation, health care, and social and family networks, they won't be willing to live on the island. Families with two working parents are much more the norm now than a generation ago, and keeping all these balls in the air is a significant challenge to island parents, especially once their children reach middle school and go to school on the mainland. In addition, though kids on Chebeague may be somewhat sheltered from some of the problems of modern life, divorce, low income, drugs, alcohol and child abuse all exist on the island.

So island residents have responded with a wide variety of organized activities for children both young and older including:

- Kids Place provides day care from infants to older children after school. This fills what had previously been a gap in services for children on the island.
- Rec Center Teen Center provides a place for teens to gather (free) and organizes a variety of activities on the island and the mainland.
- The pool at the Rec has swimming lessons.
- Camp Chebeague has many different activities from soccer to crafts to Lobster Camp -- for year-round and summer children.
- The sailing school teaches kids beginning and more advanced sailing skills.

- Sanford's Pond, created by Sanford Doughty but now partly maintained by the Rec Center, provides skating in the winter (free including equipment).
- The Library welcomes all children and maintains a substantial collection of children's books and videos. In addition they have story hour, and in the summer activities ranging from magic shows to a Harry Potter sleepover in the Library (free).
- The Golf and Tennis Clubs have lessons and clinics for children.
- The CPA, the Church and other organizations hold a variety of seasonal children's parties (free).

Even given all of these services and activities, however, there are still some children who may be in need. The 2000 Census showed Chebeague as having 6 single mothers with children, a quarter of whom appeared to have had yearly incomes of less than \$10,000. This data is old and the income figures are based on sample data which for a place as small as Chebeague can be quite misleading. But the point here is that there are now female-headed households with children who have very minimal incomes. They have problems finding jobs, housing that they can afford, and a number of the organized activities for children outside of school cost money. Jobs may be the best help for these mothers, but the children still need day care and other activities.

These, of course, are organized activities. The year-round and summer children also have the whole island to explore and play in from the shore and the intertidal, to forests that crawl with salamanders and provide homes for deer and foxes. Here the island's isolation is a boon. The community watches its kids, drives carefully when they ride their bikes on the island roads. Fathers and grandfathers teach them to hunt. Mothers make up treasure hunts in the woods. Swimming, picnics, excursions in boats seem to compete successfully with the internet.

The Elderly

The elderly make up a disproportionately large share of Great Chebeague's population. In 2000 a quarter of Chebeague's year-round population was over 65. At 14.6 percent, Maine had the fourth highest proportion of people over 65 of any state in the U.S. Chebeague's median age in 2000 was also the highest of any of the unconnected islands, ten years higher than North Haven's.

Many of these older people have lived on the island all their lives. The rest usually have some long-time connection to the island – they grew up here or came in the summer – and have decided to live year-round on the island in retirement. It seems likely that both groups will grow in the immediate future, since the babyboom generation has begun to reach retirement age.

As residents age, they tend to develop a complex of problems that need attention. Some elderly are in poor health, but even those with few health problems are likely to need to be monitored for medications they take or for chronic but not health-threatening conditions. For most there comes a time when driving a car, particularly on the mainland, becomes problematic so getting care on the mainland becomes more difficult. Almost all older people prefer to go on living on their own in their own homes as they always have. This can often be done with support from family members or from home care services. But not all older residents have family on the island and getting home care providers to come out to Chebeague is difficulty.

Income is an issue for some of these people. The median household income on Chebeague in 2000 was \$32,188. However, non family households had a median income of only \$21,250. Of these 65 households, 33 (51 percent) had householders who were 65 years or older. Of these elderly “households”, all but one were people, many of them women, living alone. However, an eff

As with children, Chebeaguers have developed a number of services that particularly help older residents including:

- The Health Clinic which provides blood testing and the services of a physician’s assistant one morning a week.
- No interview with Ginny/Joan/Chris Silva
- The Island Commons which provides assisted living care to 7 people as well as some day care. The Commons also organizes a monthly “Senior” luncheon which was so successful that it has become a “community” luncheon.
- Heating assistance provided through the Island Council

On the planning survey there was interest among 16 percent of respondents in providing Town support to the Clinic so that it might have more hours or more staffing by a doctor or physician’s assistant. Several of these people particularly mentioned the need among the elderly as a reason for the Town to be more involved.

The Relationship between the Town and the Non-Profits

When Chebeague was part of Cumberland, the division between services provided by the Town and those provide by voluntary organizations was fairly clear-cut and stable. The Town provided public health and safety services (fire, police, rescue, solid waste disposal). The school district provided education. Non-profits provided anything else that residents wanted. In cases where the Town provided some service on the mainland but not on the island, the Town would provide some support to a comparable non-profit, i.e. the Library and the Recreation Center.

Chebeague’s support of its non-profits is symbolized by their buildings. The island has far more free-standing buildings for non-profits than it does for businesses. The Church, the Parish House, the Hall, the Grange and the Doctor’s House were a first generation. Buildings for the Library and Health Clinic, the Commons, the Recreation Center, the Historical Society and Kids Place have all been created since the 1980s. The only one that has ceased to exist is the Doctor’s House which was sold when medical practice had changed so much that it became impossible to recruit a doctor to live in the house and to practice on the island. At that point the Town also ceased to provide money toward the doctor’s salary.

Each organization has raised money from year-round and summer residents to create its building, and is responsible for maintaining and staffing it. Most depend heavily on volunteer staff, but many now have some year-round paid staff. The School District pay for services it uses at the Rec Center. The Town has continued the practice begun by Cumberland of providing annual

support to the Library for the maintenance of the Library/Clinic/Hall building. Otherwise the non-profits raise operating and capital money from community fund-raisers and annual appeals.

Donations, of course, are voluntary, whereas if the facilities were owned and the services were provided by the Town, they would be paid for through taxes. Supporting services voluntarily does seem to be more acceptable to residents than doing it through taxes, even though on the planning survey 5 percent of respondents complained about the multiplicity of organizations and their requests for money.

Now that the Town is independent, it would be possible to change the balance between public and voluntary services. A question about this was asked on the planning survey. Eleven percent of respondents said they thought the present balance was good. Beyond that, 2 percent thought the Town was paying too much for community services already, and 9 percent said that they thought the Town should not take on providing any more services. On the other side, about 15 percent of respondents said they thought the Town should provide at least the same or more support to the Library, the Rec Center and the Health Clinic (they may not have realized that the latter actually receives no support from the Town). Three percent thought the Town should take over and fund the Library completely.

Respondents discussed the advantages and disadvantages of having organizations largely run by volunteers (the heavy burden of volunteer work versus the civic importance of this work and the ability to involve summer people). Some thought it would be easier and more efficient to fund services out of taxes (as well as state, federal and private grants), while others thought that it was good for people to be able to support the services they wanted in particular.

The overall figures suggest that there is not a consensus in the community on changing the balance between non-profits and the Town. This lack of consensus was apparent when Kids Place came to the Town asking to use land behind the School and to have a capital grant of \$60,000. In the end the building was located on Rec Center land and public fundraising covered the cost of the building, so the issue never came to Town Meeting where it might have been discussed openly.

Reports from individual nonprofits

The Hall and firehouse serve as public shelters in major storms because they have generators which can provide electricity, heat, running water and food preparation. The Recreation Center has applied for a grant to get a generator. It might be used instead of the Firehouse. In particular it has showers

Energy efficiency is an issue for all the organizations.

Non-Profits that have peak summer demand

These organizations have the same issue faced by many of the Town services, of having many more patrons in the summer than in the winter.

The Hall

They have a solid building that needs ongoing maintenance. They raise money for this and are currently working on new equipment for the kitchen. The Hall's capacity of 150 limits size of meetings it can host, but it was used for 74 meetings of the Selectmen and Town committees in 2008. It is also used for voting.

The Library

The library building is in good condition though it needs ongoing maintenance and upgrading of equipment like computers. Space for books, computers and for people on rainy days in the summer is a challenge but it does not sound as though they are thinking of adding any space except maybe a screened porch on the south side that could expand the space in the summer. The Library has an endowment fund.

They have 2 employees and 20 regular volunteers.

The Library, Clinic (Island Council) and Hall work together on maintenance of the joint building
Money from Town goes to Library but is used for maintaining the whole building.

The Chebeague Recreation Center

The building is sound. Like other organizations they need to raise money for regular maintenance and for replacement of equipment like the machines in the fitness room. The pool needs to be relined. They are exploring replacing the existing heating system, perhaps with solar or bio-fuel.

They have one year-round paid employee, plus the employees at Kids Place and a janitor. During the summer they add employees for the swimming pool, Camp Chebeague and the office. They have about 100 volunteers.

There may be some lack of clarity about the division of responsibility for Volunteer field between the School and the Rec.

The Health Clinic

No interviews.

Non-Profits that do not have peak summer demand?

Commons

The building is sound but old. Like the other organizations they have a regular need for maintenance and for replacement of equipment. The old furnace seems to be the most problematic capital item now.

They have 6 full time staff with benefits, 8-12 part time staff and 10 volunteers

They have an endowment fund

They would like to expand their day care services by having a larger activity room – these were in earlier proposal???

Issues raised in these interviews that relate directly to the Town:

Traffic management and parking in Center

Furnace for library/clinic/hall, and ultimately the replacement of the generator

Other issues

There has been an on-going but low-level discussion about increased provision and coordination of health care services. The Town Selectmen were directed by Town Meeting to appoint a citizens health care committee, but this has not been done.

Inventory of Recreational and Cultural Resources

The State's concern with recreation is to "promote and protect the availability of outdoor recreation opportunities for all Maine citizens, including access to surface waters." In these inventories open space is examined in the Open Space Inventory. Access to the ocean, which is important for fishing as well as for recreation, is discussed in the Marine Economy Inventory as well as the Open Space Inventory.

This inventory is largely concerned with recreation and cultural enrichment opportunities in the Town of Chebeague Island. The number and variety of these activities show the importance of the island's non-profits to its community life. In many towns at least some recreational and cultural activities are sponsored or provided by the town. But, as an unconnected island in a larger town mostly on the mainland, Great Chebeague tended to have relatively few Town services. In this situation, the island residents organized voluntary organizations to provide their own services, often preferring this to depending on being served by the Town. In the 1980s they found that they could do this effectively with the help of long-time summer residents.

Recreation

Because Great Chebeague has been a summer vacation destination since the 19th century, and the population in the summer is about five times larger than in the winter, the island has created and supported a wealth of recreational and cultural opportunities which are generally available to everyone. Also, because the island is more isolated than most places, especially in the winter, islanders tend to rely on their own resources and services for physical recreation and intellectual stimulation. Even so, it is still relatively easy for residents to take advantage of the many cultural and recreational opportunities available in the Portland metropolitan area as well.

Several recreational facilities are owned and maintained by private clubs. The nine-hole golf course provides a large, manicured open space at the "gateway" to Great Chebeague – the Stone Wharf. It also provides a perfect setting for the Chebeague Inn, set on a hill overlooking the course. The course is open to play to the public for a fee. It provides lessons, including children's lessons, and it holds 20 tournaments and several social events in the summer and fall. The Club has one full-time and 5 part-time employees in the summer.

The tennis courts of the Tennis Club are next to the golf course. This also makes them convenient to the Inn. Like the Golf Club, the Tennis Club holds tournaments and well as a weekly schedule of games. Volunteers for the Club hold a clinic for children and a tennis camp at the Rec Center.

The last of the clubs that provides recreational opportunities is the Yacht Club. They have a full summer schedule of races and a variety of receptions and picnics. They provide excursions to restaurants around the bay, available to everyone, whether they own a boat or not. Finally, they also own 7 sailboats, kept at the Boat Yard, that are used by the Sailing School that is held in two sessions for island and visiting children.

In the summer the islands all provide many other traditional recreational opportunities – fishing from boats and wharves and swimming from The Stone Wharf and the Chandler’s Cove Pier and from Hamilton, Chandler’s Cove, Bennett Cove, Division Point, Rose Point, Waldo Point beaches, The Niblic and The Hook, all on Great Chebeague, as well as from beaches on many of the other islands. Many people walk and bike on Chebeague’s roads and trails (discussed in Open Space) especially to special destinations such as Deer Point, or across the bar to Little Chebeague. Residents and others out sailing on Casco Bay explore the islands owned by the State or by the Chebeague and Cumberland Land Trust.

The Chebeague Island Hall and Community Center, with its large kitchen and stage, are used for community suppers, children’s and adult plays and musicals, and concerts as well as such events as the Ladies Aid Fair and the Commons Yard Sale.

The fall and winter have their own traditional outdoor recreations – hunting, skating at Sanford’s pond, sledding down the Durgin’s hill or on the golf course, snow-shoeing, skiing or snow-mobiling on the trails.

For indoor activities in the winter, the Hall hosts, yoga classes, the quilters and Groovy Movies. The Ladies Aid meets regularly in the Parish House.

However, indoor active recreational opportunities in the cold months, especially for children and teens, were not so common. The school used the Hall for physical education but it was not designed for team sports like basketball. So about 1996 the community decided to create a facility particularly meeting the needs of kids – with indoor and outdoor basketball courts, a tennis court, and a heated, pool, a Teen Center and a room for craft activities such as making pottery. For adults it also provided a well- equipped fitness room. The Town provided a site next to the school, so that the gym and pool could be used for school activities. The Rec Center now provides many organized sports as well as fitness and craft activities all year round. It has three staff in the winter and more in the summer when the population is much larger and the pool is in use. It also has about 100 volunteers. All age groups are served, with a particular focus on children and teens. The Rec has also assumed some responsibility for grooming and operating Sanford Doughty’s skating pond in the winter.

Like all non-profits on the island the Rec depends on donations from the community. It also gets some revenue from the school, as well as from grants and fees for classes, for the pool and the Fitness Room.

About the same time that the Rec Center was opened, Eldon and Betts Mayer funded the rehabilitation of the ballfield next to the school. It was completely redone with new dirt, grass and an irrigation system. Like the Rec Center Volunteer field is used by the school during the school year and then by various Rec Center activities in the summer. A separate parcel of land on North Road to the east of the Rec Center, called Ray Newcomb Park is the site of the day-care, Kids Place, but also has tables and grills for picnics.

So the Rec Center, the School, the school playground, Volunteer Field and Newcomb Park have become a substantial recreation complex. There is also a proposal to add a free-standing

building for the new day-care center which has used space in the Rec and the school during its first year. This, in turn, has led to proposals for renovating the playground to include equipment for younger children.

Cultural Activities and Resources

Great Chebeague not only has many physical activities for residents and visitors, it also provides a wide range of cultural and intellectual activities and events which center on the Library, the Hall, the Museum of Chebeague History and the Church.

The Library is open for at least some hours, six days a week, staffed by 2 year-round employees and about 20 regular volunteers. It has a good collection of popular books and videos, and materials for children, since it also serves as the school library in the winter. In 2008 it had 14,500 patrons and lent out 16,000 books and videos. Almost 4,000 used the public computers and many others use the Library's wireless internet connection. It can easily get books through inter-library loan. It sponsors a poetry group, a movie series and art exhibits by island artists. And it hosts fun activities for children as well as a regular children's reading hour.

The Chebeague Island Historical Society produces an extensive new exhibit on some aspect of Chebeague history almost every year at the Museum of Chebeague History. It also has monthly lectures and workshops and in 2009 revived the tradition of the summer House Tour, showing historic and new houses. The Historical Society has also sponsored a series of trips, organized by Suhail Bisharat, to Egypt, Jordan, Turkey, Boston and New York City exploring the history and arts of these countries.

Other cultural activities include:

- Plays and musicals at the Hall

- Lectures on historical, ecological, artistic and travel topics

- Music , both classical and popular, instrumental and vocal.

- Art Exhibits at the Library, the Boat Yard's upstairs gallery and the art gallery at the Stone Wharf.

Some of these events are produced as fund-raisers for island non-profits. But many are simply the regular program activities of these organizations. Since the Hall, the Parish House and the Rec all have kitchen facilities, meeting are commonly accompanied by refreshments or even full-scale meals.

General Issues

Amid this wealth of recreational and cultural facilities and activities, the issues generally are not concerned with the basic provision of services. These recreational and cultural non-profits are all organized to provide services to 1,500 to 1,800 people in the summer, so the increases in the year-round and summer populations projected in this plan are not likely to overburden either the facilities or the services provided. Instead, the issues relate to (1) the fit between current activities and possible changes in clientele and (2) the balance between volunteer and professional staff, and (3) the balance between non-profits and the Town.

The development of the Recreation Center, taken together with the newly-gained independence of the Chebeague School, the opening of a day care center and active library programs all

indicate a strengthening of services for families and children. Since maintaining this segment of the population and attracting new families to the island may be central goals of this plan, these services can play an important role in making Chebeague an attractive place for young families to live.

Chebeague also has the highest proportion of people over the age of 65 of any of Maine's unconnected islands. Many of the island organizations' programs already serve this constituency well, but if this sector of the population grows, there may be a greater demand for such things as exercise programs.

Traditionally, most of the recreational and cultural activities on the island have depended heavily on the work on volunteers. As many of the organizations have become more institutionalized, with buildings to maintain, a year-round schedule of activities and then a higher level of effort in the summer, volunteer burnout has become an issue. In this sense, the capacity of the community to continue to provide this range of services may be close to its capacity.

As the Library, the Rec Center, and to a lesser extent the Historical Society have built buildings and provide year-round services, they have recognized the need to hire staff to carry some of the load. This, of course, requires more money. Grants cover some things, and the financial support provided by the Town/School to the Rec and the Library are an important contribution that was particularly mentioned by about 20 percent people on the comprehensive planning survey.

There was also general support for keeping the present arrangement of having most services provided by non-profits, with help from the Town for those that support the School as well. The ability to draw on the commitment and energy that volunteers – year-round and summer -- provide to these organizations is very important to the character of the services.

Specific Issues

Should the Town have a management plan and rules for public access to the outer islands?

 Moorings, camping, fires?

 Compatibility with State policies?

Responsibility for the maintenance of Volunteer Field.

Inventory of Fiscal Capacity and Capital Investment Planning

The underlying fundamentals of the Town of Chebeague Island's fiscal capacity are good since the Town has high-value, shore-front property owned especially by summer people. On the other side, there are factors that keep Town expenditure down. Many year-round residents have modest to low incomes – the median household income in the 2000 Census was \$32,188 though in the 2010 Census it may be proportionately higher, possibly reflecting an increase in year-round retirees. In addition, the Town had a debt in 2007 of \$4.8 million as a result of secession.

The 2009 Audit by Berry, Talbot and Royer indicates that on June 30 the Town had capital assets, net of depreciation, of \$3,018,045 and total assets of \$5,330,649, compared with liabilities, including debt, of \$4,517,515.

Revenues and Expenditures

The Town of Chebeague Island only came into being in July 2007. Revenues and expenditures

Table 1: Town of Chebeague Island Revenues²³

Revenues	2007-2008	2008-2009
Property Taxes	\$2,318,325	\$2,372,612
Excise Taxes	89,106	88,816
Intergovernmental Transfers	236,222	217,107
Licenses, Permits and Fees	53,775	56,593
Interest	18,833	12,551
Other	18,633	-----
Total	2,734,894	2,749,509

Table 2: Town of Chebeague Island Expenditures

Expenditures	2007-2008	2008-2009
General Government	402,873	\$327,370
Public Safety	141,424	161,587
Public Works	189,082	192,502
Education	846,551	814,568
Health, Sanitation and Welfare	140,295	143,035
Cultural and Recreation	99,600	97,500
Fixed Charges	162,438	746,854
Capital Investment	156,000	123,000
Total	\$2,138,263	\$2,606,416

²³ Expenditures and revenues are taken from the Town's audits.

for two years are shown in Tables 1 and 2. The first year’s budget was created by a Transition Committee, with help from Cumberland, and was everyone’s best guess about what it would cost the new town to operate.

A second year of experience has shifted both of experience has shifted both the expenditure and revenue pictures a bit, but not dramatically except in the case of fixed charges for debt.

There are three sources of debt, all resulting from secession. A \$1.3 million bond issue reimburses the Town of Cumberland for all the capital items on the island at the time of secession, for Chebeague’s share of the Town’s debt incurred while Chebeague was part of the Town and for a new Chebeague fire truck. Another \$1.7 million bond issue does the same for MSAD 51. A third bond issue for \$1.8 million pays for the education of Chebeague’s children in the MSAD 51 schools for the seven years after secession, to 2014.

The debt payment for 2007-2008 was misleading because the first bond payment was not made until November 2008 and was only \$162,438. However, the 2008-2009 debt service of \$600,828 will be fairly typical until 2014 when the 7 year payment for schooling ends. At that point the debt service will decrease to about \$221,000 per year. However, the tax revenue released from this debt service will then be needed to pay tuition for students in school on the mainland.

In addition to the 1.3 lump sum payment to the Town of Cumberland, the Town of Chebeague island also contributes 50 percent of the tax revenue from the outer islands to Cumberland for 50 years.

Tax Base and Tax Rate

Table 3 shows the tax base for the Town during the two years it has been in existence [and back 3 years when it was still part of Cumberland]. The table also gives the tax rates

Table 3: Valuation and Tax Rates 200? To 2009

Valuation	2005	2006	2007	2008	2009
Real Property				\$113,325,950	\$116.004,688
Personal Property				236,500	235,600
Tax Rate				20.49/ thousand	20.13/thousand

The Town Assessor expects that the tax base will be fairly stable over the next ten years. The \$2.7 million increase between 2008 and 2009 resulted from several one-time revisions and collections done by the new Assessor. Since most of the property is year-round and summer houses, it is subject to fluctuations in the housing market. The collapse of the housing boom has not generally reduced land and housing values, but it has resulted in a substantial decline in new construction.

The Town has not had a revaluation since 2002 when it was part of Cumberland. The State estimates that its assessments are about 65% of market value. It is putting aside money in the capital budget to pay for a new revaluation study in the next few years.

The Town has a number of properties in the State Tree Growth and Open Space programs, as well as land in conservation easements and non-profits like the Church. However these do not have a significant effect on taxes.

The Town of Chebeague Island is committed to keeping taxes as low as is consistent with meeting public needs, and increasing them as little as possible over the coming ten years. The one-time growth in the tax base between 2008 and 2009 was sufficient to lower the tax rate. But our experience is too limited to know what the future will bring.

Revenues from new development have probably covered the need for additional services created by that development in the past but since Chebeague was part of Cumberland, this was not kept track of separately. However, the way this has to be looked at on Chebeague is somewhat different than in many other communities. Meeting the service need is less a matter of extending utilities or roads and more an issue of having the service capacity to meet the maximum demand in the summer for such things as solid waste disposal, rescue, police and services provided by the Town Clerk and the Harbormaster.

The demographic projections indicate an increase of about 33 year-round and perhaps 11 summer people over the next ten years. This increase is probably not enough to require enlargement of Town facilities such as the fire house or the transfer station. The possible need for a new ferry terminal with more parking or a ferry-bus service might prove to be one exception.

One inheritance from the Town of Cumberland was a backlog in road maintenance so significant that some roads may need to be rebuilt. As assessments rise in the future and as present secession-related debt is retired, road reconstruction may absorb freed-up tax revenues for some time.

Capital Investments

The capital budget and six-year Capital Improvement and Management Plan are intended to identify, prioritize, plan for and schedule large expenditures on assets or infrastructure that will last a significant length of time – things like purchase of land, construction or major repairs of buildings roads or piers, and purchase of fire trucks and other major equipment. These items can be financed over a period of time, either by putting money aside in the capital budget over a period of years until the needed amount is available, or they can be paid for by issuing bonds which are then paid back over a period of years. Sometimes capital items are paid for with grant money such as the DOT grant to rebuild the wharf turn-around on Cousins Island.

In the transition to independence The Town of Chebeague Island acquired the existing Town and School infrastructure and, as indicated above, undertook \$4.8 million in debt to reimburse the Town of Cumberland and SAD 51. Since the Town starts its life with such a large debt, it seems likely that the Town will not be borrowing additional money until these debts are paid off.

With a few exceptions, the Town of Chebeague Island did not inherit any systematic capital improvement program. The one exception was the Fire and Rescue Department which had developed a capital investment plan under Cumberland. In 2007-08 and 2008-09 Town moneys were put into a capital account to cover capital items that were obviously on the horizon such as, vehicles, building repairs, fire pond dredging, and wharf, float and boat ramp repairs.

At the beginning of the budgeting process in 2009 an initial Capital Improvement and Maintenance Plan was developed by the Town Administrator. It covers capital items that cost more than \$7,500 and are expected to last longer than five years. It extends over a six-year period and covers:

- Harbor and waterfront improvements: Dredging, maintenance of the Stone Wharf, floats at several piers, and the boats of the Harbormaster and Shellfish Warden
- Public Safety: Fire and Rescue facilities and equipment. Not police.
- General Government Reserves: A revaluation Study, building facilities and administrative vehicles.
- Public Works: Road repairs and public works equipment.
- Public Easements and drainage-ways

The Selectmen develop the Capital Improvement and Maintenance Plan as part of the yearly budget cycle that goes to Annual Town Meeting for approval. It is expected that most capital investments will be funded by yearly contributions to the Capital Investment Reserve Fund. The Town has no impact fee ordinance [might recommend one?????]

School and County Obligations

Payments to schools on the mainland and to the county do not have an adverse effect on the Town's ability to finance capital investments.

State Spending Limitations

The LD 1 limits have not been surpassed.

Capital Budget Priorities:

- *Recommendations in this Plan are in the process of being developed. Others may be added:*
 - Recommend studies of possible capital projects:
 - Sunset Landing
 - New gravel pit
 - Road improvement and reconstruction
 - Recommended
 - Maintenance of Stone Wharf

The final plan must establish general funding priorities among capital recommendations. It must also identify potential funding sources and mechanisms

Sharing of Capital Investments

In general, the Town of Chebeague Island's status as a collection of unconnected islands limits the possibilities for sharing of capital investments with other units of government. The primary exception is that Chebeague does use wharf and parking areas on the mainland for the operation of the CTC.

The Town of Chebeague Island shares with the Town of Yarmouth the cost of maintaining and reconstructing the wharf at Cousins Island used by the CTC. Chebeague puts in \$15,000 per year.

State DOT has also provided money for capital improvements at this wharf, specifically the purchase of the Blanchard parking lot and the reconstruction of the road to and the turn-around at the Cousins Island Wharf.

In addition the State also builds and maintains the pier at Chandler's Cove for the Casco Bay Lines. The Town has an agreement with the State to have a float at this pier.

PART IV: SURVEY REPORT

A Vision for Chebeague?

2009 Chebeague Visioning Survey

July 26, 2009

2009 CHEBEAGUE VISIONING SURVEY

Visioning is used in the development of comprehensive plans to provide a way for members of the public to articulate how they would like their community to develop over the period of the plan. Visioning is generally done in meetings where people can discuss ideas, get feedback and hopefully, converge on a common vision of where the community should go in the future.

The schedule of Chebeague's planning process would logically have produced a visioning process that would occur in the fall or winter. However, the Town has a large and stable summer population, many of whom have been coming to the island for several generations. These people own houses and land and have a significant financial and psychic investment in the community. Meetings during the winter would have excluded this group. Instead the Comprehensive Planning Committee decided to do a survey that could be sent to everyone.

A Survey Committee made up of Mabel Doughty, Donna Damon, Jane Frizzell, Beth Howe, Peter Olney and Hugh Coxe, worked on several approaches to asking the questions and finally decided that, given the relatively small number of total respondents involved, a survey with largely open-ended questions would be the best way to elicit people's ideas about the future of the Town without putting words in their mouths. The questions describe the present situation for each planning topic – such as transportation to the mainland or land use – and ask the respondent what they would like to see “for the next generation”.

This strategy had some drawbacks. The major one is that writing a paragraph in answer to each of a series of these open-ended questions is much more difficult and time consuming than checking boxes. Respondents did skip questions or sometimes wrote that they had no ideas on a topic. But having open-ended questions undoubtedly reduced the response rate. Since response rates are generally high for Chebeague surveys, this did not necessarily pose a major problem. But the bias toward people who were willing to work through 11 small essays is real.

Because of this non-response and because of the very open-ended nature of the questions and answers, some members of the Comprehensive Planning Committee have consistently argued that the results from this survey should only be taken as exploratory and should not be used in the Plan. Such an exploratory analysis would need to be followed by a survey using closed-ended questions that would give a clear idea of support for or opposition to various specific policy options. This is a reasonable suggestion. However, this report covers only the initial open-ended survey.

The Survey Population

Because the questions in the survey asked about issues largely relevant to residents of Great Chebeague, the population surveyed did not include residents and owners on the outer islands.

The island's population, even with summer people included is so small that sampling is not relevant. The population for this survey was defined primarily as the year-round and summer people listed in the Chebeague Directory which has about 750 listings of people who live on Great Chebeague.

The Chebeague Directory includes year-round residents and summer people who own property on the island. It also includes grown children of property owners who come regularly, and a few people who are regular renters.

In addition, 105 people and family trusts on Great Chebeague which were not listed in the Directory were added to the list from the Town property tax records. Many of the 26 family trusts are made up of people who did get surveys as part of the Directory population. But 79 are people who simply own property on Great Chebeague.

Surveys were sent to individuals rather than households, since even people in the same household might have different ideas about how they would like to see Chebeague develop in the future. The two lists produced a survey population of 834 people – 32 percent year-round residents, 55 percent summer people and 13 percent property owners.

Survey Distribution

The survey was administered in two forms. One was a traditional paper questionnaire, sent by U.S. mail, with return postage. The other was an on-line version at surveymonkey.com. All adult, year-round residents, 267 people, were sent paper questionnaires on January 16, 2009. These also included an insert saying that if the respondent could not write the survey out, they could call the Comprehensive Planning Committee and someone would come to interview them. A small number of respondents took up this invitation. Finally, the letter explained how to get to the [surveymonkey](http://surveymonkey.com) website, which 44 year-round residents did.

The survey also included a stamped postcard with the respondent's name on it. They were asked to mail it in separately from their questionnaire so that the Committee would know who not to send reminder postcards to.

An additional 304 people off the island were sent paper questionnaires exactly the same as the island ones except without the offer of an interview. The 105 property owners were also sent the same questionnaire.

Finally 159 people off the island who have email addresses in the Chebeague Directory were sent an email explaining the survey and giving the respondent a link to the [surveymonkey](http://surveymonkey.com) site. They were also told how to get a paper survey if they preferred that way of filling it out. Those who filled out the survey on line were asked to send an email to the committee saying they had completed it.

At the beginning of February reminder postcards were sent to people who had not returned their postcards. The people who had been sent the [surveymonkey](http://surveymonkey.com) link by email were given an email reminder, and, if they still didn't respond, a postcard reminder. The questionnaire on [surveymonkey](http://surveymonkey.com) was closed on March 15. Mailed questionnaires were accepted until April 1.

Responses

In the end, 298 people returned their surveys, for an overall response rate of 36 percent. Of these 297, 89 were returned by year-round residents, 171 by summer people and 1 by a person who only owns property. However, 37 people did not send in any demographic information. Several

were people who declined, but most were people who did not realize that there was a separate section on demographics after the main questions in the surveymonkey version.

As a practical matter, this turned out to be a survey of 297 year-round and summer residents, if the surveys sent to property owners only are taken out. The response rate for the two groups was about the same: 33 percent of the surveys sent to year-round residents were returned, while 35 percent of those sent to summer people were. The 37 people who gave no background information are not counted here.

The demographic information on the individuals (not households) who filled out the survey is given in Table 1. The table does not produce many surprises. Most everyone,

Table 1: What Kind of People Responded to the Survey?

	Year-Round	Summer	Total
	N = 89	N = 171 max	N = 260 max
How long have you lived or been coming to Chebeague?	Average 29 yrs plus 10 “lifelong” range 1 – 86 yrs	Average 42 yrs plus 15 “lifelong” range 2 - 85 yrs	
Are you a property owner?			
Yes	84 94%	147 89%	231 85%
No	5 6%	19 11%	24 15%
Where do you work?			
On Chebeague	27 30%	4 2%	31 12%
Commute to mainland	16 18%	6 4%	22
Both	13 15%	7 4%	20 8%
Unrelated to Chebeague	0	92 55%	92 36%
Not employed or retired	32 36%	59 35%	91
Partly retired	1 1%		1 .3%
Do you own a business on Chebeague?			
Yes	22 25%	7 4%	29 12%
No	65 75%	157 96%	222 88%
Do you have children at home?			
No	64 72%	Not Relevant	
Pre-school	3 3%		
Elementary school	12 13%		
School on mainland	10 11%		
Age N = only paper surveys	N = 41	N = 34	
<20	0	0	
21-40	0	1 3%	
41-65	15 37%	13 38%	
>65	26 63%	20 59%	

year-round and summer, owns property on the island. Year-round residents work on Chebeague or its waters, commute to the mainland or do some of each, while summer people mostly work somewhere “away” and come to Chebeague on vacation, though 10 percent work while they are here. Similarly, a quarter of year-round people own businesses on the island compared to only 4 percent for summer people. The proportion of retired people who responded to the survey was almost exactly the same for the two groups.

The average length of time that people have lived on the island is lower for year-round residents. This is probably due to two factors. One is that there were more young year-round people who filled out the survey. The other is that retirees who move to the island, who were not summer people with a long island history, show up as living only a few years on the island. But length of time on Chebeague cannot be used as a surrogate for age.

The small amount of data on age of respondents who sent in paper questionnaires just tells us that people, summer or year-round who did it on paper tend to be in older age groups.

How Representative of Year-Round Chebeaguers Were the Survey Respondents?

With an overall response rate of only 37 percent, one question that the demographic information raises is whether the group who filled out the questionnaire is at all like the population as a whole. However, we only have independent demographic information for year-round residents of Chebeague; there is no definitive way, outside a survey, to know the demographics of summer people. The data on year-round residents comes from the 2000 Census and the 2008 population count by the Comprehensive Planning Committee.

Perhaps the most relevant issue for exploring the correspondence between respondents and the population as a whole is whether the age range of respondents was different from that of the population as a whole. A number of the topics explored in the survey produce different problems or issues for residents of different ages. Unfortunately, by accident the question on age was not included in the on-line version of the questionnaire, so it is impossible to see the overall age distribution.

The only way to get at whether the 44 year-round people who filled out the survey on-line were different from the 44 who filled it out on paper is to look at the presence or absence of children in households. Among people who filled out the survey on line and provided information about children in the home, 28 or 70 percent had no children at home and 30 percent had children. Among the 37 people who filled out the survey on paper and reported on children in the home, 89 percent had no children at home, while 11 percent did. So the two ways of filling out the questionnaire clearly drew different respondents.

Taken together the total number of individuals who reported that they had children at home was 25 and the number who did not was 64. How does this compare to the proportions in Chebeague’s 2008 population? There were 74 individual adults in households with children in 2008 and 259 people in households without. This indicates that 34 percent of people who had children at home responded to the survey, while 25 percent of people who did not responded. This indicates that younger people were somewhat more likely to respond, maybe not surprising given the work involved in filling out the questionnaire.

Analysis

The analysis was done by Beth Howe. Analyzing open-ended responses to questions is cumbersome since they cannot and should not just be reduced to a numerical coding scheme that can then be used to look at averages or medians or cross-tabulations between, say, age and support for preserving open space, or year-round versus summer residence and evaluation of the adequacy of the transportation to the mainland.

The method used was to sort the survey responses by a few variables that seemed as if they might tell about differences and then look at all the responses for one question, looking for patterns – what ideas were mentioned by many people, which by only a few, and what ideas were put forward by a single person.

The primary variable that was used to sort the surveys was year-round versus summer residence on the island. While many people in both groups have been associated with the island for many years, often their whole lives and have strong commitments to Chebeague, coming to the island in the summer on vacation is a significantly different experience from living on the island all year and working there. Of course some year-round residents are retired, and some go to Florida in the winter, so there is something of a continuum rather than two entirely different groups. But most year-round residents have no other community that they belong to as they do to Chebeague's, while summer people do have other places they come from. Voters are largely year-round residents, and summer people are not. A survey such as this one for a comprehensive plan can give voice to the concerns and desires of people who do not have a vote, but the two groups should not be confused.

Even so, there are obviously other ways to divide the respondents. Year round residents with children may have different concerns from those who are elderly, for example.

While most of the analysis focused on responses to individual questions, at the end, as part of the analysis of respondents' priorities, each whole survey was looked at as a unit to be sure that the "the whole" really was "the sum of its parts".

Transportation to the Mainland

The question on transportation only described current ways to get back and forth by water to the mainland from Chebeague. But Chebeague has a 50 year history of actual and proposed changes in transportation to the mainland, so residents have a fairly wide image of the options – bridge, car-ferry, passenger-ferry and water taxi. And because of the conflicts these efforts to change the system created, many people have strong preferences about what they consider useful and practical.

So, 7 percent of respondents said they wanted a bridge, with little difference between year-round and summer residents. Most, like the one below, however, did not see it as a very practical option any more.

It might be time to revisit the bridge issue, though funding one would be a tremendous challenge. The boats are no problem for summer people, but no fun when the weather gets cold. Traffic would increase, but we've already seen a huge increase in summer traffic just from people barging cars over for a couple of weeks of vacation. If open space is protected, the quiet charm of the island could be preserved.²⁴

One respondent from Washington State suggested a floating bridge, something that does exist there.

On the other side, again with little difference between summer and year-round residents, 17 percent of respondents saw having a bridge as a nightmare:

First and foremost ... NEVER a bridge, ALWAYS by boat(s) Bridges destroy the character of an island ... ☒ allows the ominous criminal element easy -- and anonymous -- access

No Bridge. The current situation is working, perhaps not well, but it is working. I think that it can continue to work, but the fees are difficult and expensive. it would be great to have a more affordable way to get back and forth.

Once in favor of a bridge, I'm not any more even though lugging, tugging and wagging (?) is hard sometimes. It what keeps us unique and a community. The boat has us talking to folks we don't see every day.

Similarly, 6 percent, with no difference between year round and summer people, were beguiled by the idea of a car ferry, though they tended to want it to be "limited" or "exclusive" -- allowing people with Chebeague connections to travel back and forth but not others. Such a ferry would have many benefits in terms of convenience and cost savings.

Consider a very exclusive -- like, by subscription available only to island residents -- CAR ferry Potential benefits ... ☒ significantly reducing parking needs on the mainland; ☒ reducing the number of vehicles having to be owned by islanders; ☒ cleaner air if island cars are newer and/or better maintained and/or fewer vehicles on- and off- island. ☒ fuel purchases can be made off-island -- at real world prices rather than the has-to-be-astronomically-marked-up prices of boat-delivered fuel.

My family has been coming for summer vacations for the past 60 years, and I have seen the advantages and disadvantages of the two ferries as well as the water taxi. I dislike the business of having to take the bus to and from the lot on Rte 1, and wonder how I would find that as a regular part of my life if I fulfilled my dream of living on Chebeague. It seems a special car ferry like the people that live on the islands in Puget sound near

²⁴ The quotes are reproduced just the way people typed them into surveymonkey -- spelling, punctuation and font.

Seattle enjoy might be a good option; Note that in this case I would recommend this only for People who live on the island. Such a ferry might take 8 cars at a time. There could be

Table 2 : The Future of Transportation to the Mainland

	Year-round		Summer		Don't know		Total	
N	N = 84		N = 156		N = 14		N = 254	
Current system ok	42	50%	54	35%	6	43%	102	40%
Keep two ferries	3	4%	33	21%	2	14%	38	15%
Want a bridge	4	5%	11	7%	2	14%	17	7%
No bridge	14	17%	26	17%	1	7%	41	16%
Want a car-ferry	6	7%	9	6%	0		15	6%
No car-ferry	8	9.5	5	3%	0		13	5%
The cumbersome trip is a good thing	7	8%	14	9%	1	7%	22	9%
Parking on Chebeague								
Parking at Stone Wharf a problem	7	8%	26	17%	4	28%	37	15%
Move ferry to Sunset Landing	18	21%	12	8%	0		30	12%
Have remote parking lot	12	14%	6	4%	1	7%	19	7%
Have a round-island shuttle bus	12	14%	18	11.5%	0		30	12%
Have better taxi service	6	7%	5	3%	1	7%	11	4%
Cost								
Parking and ferry are expensive	12	14%	16	10%	2	14%	30	12%
Have lower fares	7	8%	0		0		7	3%
Cost excludes family & friends	6	7%	4	3%	0		10	4%
Get gov't subsidy	6	7%	7	5%	1	7%	14	5.5%
Explore Town takeover of CTC	15	18%	9	6%	0		24	9%
With Town subsidy	6	7%	4	3%	1	7%	11	4%
No takeover	1	1%	2	1%	0		3	1%
Other								
Rt. 1 lot works	0		6	4%	0		6	2%
Rt. 1 lot does not work	0		18	11.5%	0		18	7%

Keep good relations with Yarmouth	3 4%	0	0	3 1%
Keep good relations with the State	3 4%	0	0	3 1%

a morning and afternoon car ferry, so that you could drive to town, pack up your purchases and drive it back to the island in the afternoon. Similarly, for doctors appointments for ill or disabled people, all the changes of transportation would be removed by driving onto the car ferry and returning the same way later that day. It also saves the money needed to own and maintain and insure two vehicles. It would lessen the need for larger parking lots at the ferry wharves. I suppose summer residents (who own property and pay taxes) could pay a premium to use the car ferry, which would subsidize the cost for lower income island residents. It could operate 6 days a week. The idea is to lessen the need for all the cars and parking lots and buses and carrying of bags on and off boats and so forth, without increasing traffic on the island. It seems Chebeague has maintained all the charm of a beautiful wild island for generations, yet in the modern world, for people to live on the island, they pay a price in difficulty of transportation for the rest of us to enjoy the benefits of it being remote. There needs a way to keep it remote to outsiders, while relieving the difficulties of the current access to those who do live there. Such a ferry could go to and from Portland to the Bennetts cove ramp the way trucks do.

The supporters of a car-ferry were countered, in turn, by 5 percent (including 10 percent of year-round people) who specifically wrote that they did not want a car-ferry.

As unfriendly as it may seem, if the island is to stay a quiet, safe and close-knit community, getting to and from the island should not be made entirely easy. A car ferry, for example, would provide easier access.

So altogether, 13 percent of the respondents wanted to make the transportation easier by enabling people to go back and forth in cars. They were greatly outweighed by the half of all year-round residents and the 35 percent of summer people who said that they were satisfied, though not uncritically, with the existing ferry services. As a 58-year summer visitor wrote, perhaps ironically:

What other choices are there? Helicopter?

Another summer person put it quite differently:

Since I am a summer person, I am very happy with the transportation as it is. It may be inconvenient, but it adds to the sense of other-worldliness which is what keeps Chebeague special (sacred?)

Or a year-round person:

The current means of travel between the island and the mainland is complicated but it is also an intrinsic aspect of Chebeague life. If you don't want to structure your life around a ferry schedule, and the limitations that imposes, choose to live elsewhere.

While there seemed to be a difference between year-round and summer people on their evaluation of the present system, this may be misleading because 21 percent of summer people, but only 4 percent of year-round residents, specifically said that they hoped that nay future transportation system would continue to have both the CTC and the Casco Bay Lines. They gave a variety of reasons for this:

Having grown up during the summers on the Island, and experienced all of the above modes of travel to and fro, it seems that the 2 current ferry companies/corporations are both needed to fulfill the year round needs of residents and visitors. Even though the majority of locals appear to gravitate toward CTC, there was a time when four to six landings were in constant use at Chebeague. I cannot count out Casco Bay Lines service, as it serves many non-automotive Portlanders, who otherwise would have to land taxi or otherwise get to Cousin's landing and need to return to town later. The CTC meets the needs for commuters and school children to a better degree, of course, due to their busy schedule of boats and buses. The Casco Bay Lines is well situated to avail itself to foreign visitors, for example, who are used to inter city travel. In regions of our country, like the Cape Cod area, Seattle and San Francisco Bay, larger ferries run constantly (of course to larger localities). Our Island would seem to be better able to serve day trippers, who can contribute to our economy, via Casco Bay Lines.

Adding these two-ferry supporters to those who said they were generally satisfied with the present service suggests that 55 percent see the existing system as viable and reasonable:

At this point I don't know how the system can be approved upon. I think my only minor complaint is the cost of visitor parking at the lots. If people are going to come to the island to visit and spend money, paying \$15 a day gets pricey. But on the other hand I don't want my rates to go up to compensate for lower visitor fares, so I am not sure what the solution is.

Like this person, no one saw the existing system as perfect. Many more people had suggestions about the CTC than about the CBL. But only three respondents had nothing but complaints about cost and cumbersomeness. The rest either saw some redeeming feature or suggested ways to make the ferry services better.

The most-cited redeeming feature of the present system, and the problem with the ideas of a bridge or a car-ferry, is that easier automobile access to the island would encourage many more people to come. Two year-round people pointed out the shaping effect that the transportation system has on the population:

The way they do now, by ferry, private boat or water taxi.....but cheaper! Focus on parking and transportation alternatives...perhaps CTC should be town-owned. There should always be some effort involved in getting here....that way, only the loyal and true will persevere, and our community will keep it's dedicated citizenry. A bridge would be too easy....heaven knows who would invade, not to mention the Sunday drivers. And a regular car ferry might have a similar effect. Barging should continue to be the only car access.

One of the characteristics of the island is that it is difficult and expensive to bring vehicles to the island and another is that the ferry ride is particularly cumbersome. This “filters” the pool of potential residents and helps to create ‘new islanders’ (people from away) of a certain type.

And so did a summer person who comes only two weeks during the year:

I really want to preserve CTC as a way to get to the island. Many people are short term visitors (even those like me who come every year but only for 2 weeks) who don't own boats and fly into Portland to visit. The CTC provides a faster and more flexible way to get to the mainland. The island needs to be accessible to a wide range and age of people and the CTC most easily fulfills this role. The parking fees and cumbersome nature of the whole transportation issue is fair and needed and helps Chebeague keep its rural character and only those who care enough to make the trip will come. We want folks who care. :-)

So what did current residents think should be changed for future generations? The two major issues were parking and cost. Not surprisingly, more summer people than year-round mentioned the problem of parking at the Stone Wharf. Some were also golfers who saw the issue from both sides. One way to solve this, mentioned by 12 percent overall (21 percent year-round and 8 percent summer) would be to build a new wharf with parking at Sunset Landing

I suggest rekindling the dialogue on the idea of establishing a CTC ferry landing at Sunset Landing. The Stone Pier has forever had inadequate parking and at the height of the summer season, cars parked all along Wharf Rd create an unsightly blight in an otherwise open and beautiful part of the Island. (Not to mention a hazard for golfers!) Moving the public ferry landing to Sunset would allow us to dedicate the use of the Stone Pier for the Island's fishing industry and for private boating and will help in attracting Casco Bay cruisers to come to Chebeague.

Another idea, mentioned by 7 percent (14 percent year--round and 4 percent summer) would be to have a remote parking lot on the island served by a bus (maybe electric or hybrid), either just to the Stone Wharf or to Chandler’s Cove as well. Several variants of this idea were floated. This one proposed such a lot for commuters, but others suggested allowing only commuters and fishermen to park at the Stone Wharf while everyone else went to the remote parking.

The combination of CTC and Casco Bay Lines works for me. The parking issue on Chebeague has always been a tough one. I guess the problem has gotten worse with more islanders out of necessity commuting to the mainland for work. Any chance of an off site

lot from the stone pier with a shuttle bus to and from the pier specifically for commuters? The shuttle would only have to meet a limited number of boats. Individuals using the shuttle could get reduced commuting tickets for the inconvenience.

And 12 percent dropped the idea of a parking lot and just suggested having a shuttle bus around the island that would go to the wharves as well as other places.

Has anyone considered a bus route on the island that would meet boats, get people to church, shopping, the Library? Other communities are going back to buses as an important method of mass transit that would eliminate some of the cars parked on the docks. I would still like future generations to arrive by boat. We are an island community, and maintaining that continuity is important to the future of land use on the island.

The cost of the ferry and parking was a sore point for 15 percent of respondents (22 percent year-round and 10 percent summer), while an additional 13 summer people complained specifically at the cost of parking at the Route 1 lot.

Until you lower the costs for living on the island, and I specifically mean the transportation costs, it doesn't matter what I'd like. \$15 a day for parking is more than it costs to park at the Maine airport or Boston! And the CTC Board is willing to continue raising rates vs. seeking alternate revenue sources. Your boat ticket prices continue to escalate with no stopping in site. Living on the island requires two vehicles; one on the mainland, one on the island. Double the insurance. Just think how liberating it would be to eliminate those costs for taxpayers on the island by making it, let's say, part of the tax base, or by making CTC a not for profit that accesses grant funds or federal dollars, or at least those costs become write-off's on your state taxes. It would make Chebeague far far more attractive to all ages. Right now it is becoming more and more 'exclusive' simply because of the transportation issue.

Both summer and year-round people commented on the impact of the cost on family and friends on the mainland. A year-round person wrote:

I wish transportation could be cheaper. I know it takes a lot to run such a business, but more people would come if it wasn't as high. It's less embarrassing to meet old friends in Town than have them come here.

And a summer person worried about the future:

It is so expensive to be a visitor to Chebeague. The overnight parking and cost of the boat for a family of 5 plus a dog is really difficult to stomach. I worry that the next generation of my family may decide to opt for a vacation spot that is more convenient and less expensive to get to. I wish there was a way to bring those costs down. I have heard the argument that it is exactly this challenge that makes Chebeague the charming place that it is. True, part of the charm is its remoteness; however, it needs to be somewhat affordable to continue to attract visitors.

State, federal or Town subsidies were one, if vague, answer to this problem. Changing the organization of CTC to a non-profit or an agency of the Town were seen as the likeliest routes to these subsidies – 18 percent of year round residents suggested at least considering Town ownership.

I do feel that the CTC should become part of the town. There will be greater oversight of the day-to-day operations, create a strong management structure, and provide greater stakeholder involvement in company operations. We as riders have no control over rate hikes etc, whereas if this were to be a municipal entity, residents would have a greater say in the changes that take place.

Some had an almost utopian vision of this future. One year round resident said that future generations should travel

Free on ferries supported by the town's taxes and mainland parking underwritten with property taxes.

Other people had ideas for saving money by improving efficiency (1) to reducing the number of trips per day (5). Of course they were balanced out by others who had ideas for more trips in the summer (1) or for kids going to and from school activities (2), and others who wanted a parking garage on Cousins Island (5) or warmer waiting sheds (1).

Finally, there were some respondents who make an effort to think about how Chebeague's transportation system might adapt to changes in energy supplies and costs. Most just mentioned electric vehicles, but this summer person had a coherent image of Chebeague's place in a different energy economy:

I would like to see an increased use of electric vehicles on the island where possible and a decrease in fossil fuel use. Increased business opportunity on the island could reduce the demand for off-island commuting. The ferry system works well but will become increasingly expensive due to likely inflationary trends set in motion by US money supply expansion as well as fossil fuel depletion in the years to come. I believe the link to Portland proper is essential. In the years to come, I believe local ports will handle an increasing responsibility for basic supplies. The trucking industry will become less viable as a means of transporting goods and it remains to be seen whether rail service is resuscitated in the US. Communities on the water will be well situated to maintain their supply lifelines.

The Chebeague Economy

The question about the economy described the variety of work that Chebeague people do: marine activities including fishing, construction, local service, arts and crafts, farming, forestry, vacation related work, commuting to jobs on the mainland and working for island non-profits. The responses were interesting because of which of these elements year-round and summer respondents did and did not discuss. They show the tension in a small community between

Table 3: The Future Chebeague Economy

	Year Round	Summer	Don't Know	Total
N=	80	152	11	243
Eco is ok as is	16 20%	14 9%	1 9%	31 13%
Fishing is central	13 16%	24 16%	3 27%	40 16% ^x
Keep fishing going		13 9%	1 9%	14 6%
Mixed eco is good	7 9%	8 5%	0	15 6%
Vacation eco & fishing both central/balance	4 5%	17 26%	2 18%	23 9%
Tourism is central	0	16 10%	0	16 7%
Promote it		8 5%	0	8 3%
Promote it but carefully	3 4%	4 3%	0	7 3%
Eco tourism	0	7 5%	0	7 3%
Day-trippers	0	4 3%	0	4 2%
The Inn is important	0	6 4%	1 20%	7 3%
Create more jobs	12 15%	4 3%	1 9%	17 7%
Support existing businesses	0	10 7%	1 9%	
Market Cheb.	5 6%	5 3%	1 9%	11 4%
>Summer people = more jobs	5 6%	0	0	5 2%
Commuting ok	2 2.5%	14 9%		16 7%
Keep CTC commuting fares low	0	8 5%	1 9%	9 4%
Encourage > retirees	1 1%	6 4%	0	7 3%
Keep island affordable	3 4%	4 3%	1 9%	8 3%
Population size	4 5%	5 3%	0	9 4%
Some Town role in eco dev	7 9%	32 21%	0	39 16%
Low property tax helps eco	3 4%	0	0	3 1%

having a successful, working-class “summer” economy and the desire to have an economy that provides more middle-class, stable year-round jobs with better income.

A basic ten to 20 percent of all the respondents thought the mix of businesses in the economy was good as is. Indeed, 6 percent pointed out that the current diversity of the economy was a strength. A few people in both groups noted that the small size of the population made the

expansion of existing businesses or the development of new ones difficult, and that a larger population might help the economy:

We need a larger island population as well as additional 'high quality' tourism, therefore creating a larger 'customer base'. This would then allow existing island businesses to grow and encourage development of new enterprises. It is unlikely that a year-round population of 350 to 400 is enough to sustain even one year-round restaurant business

Among both year-round and summer residents. 16 percent of respondents thought that fishing should continue to be the central focus of the economy. An additional 9 percent of summer people did not see it as central but thought it would and should continue. A year-round resident made suggestions about improved facilities for fishermen:

Essentially I believe the economy as you have described it seems worth sustaining in more-or-less current proportions. Looking at improving existing shared facilities for marine use (docks, floats, water access) and creating new ones like a boom to load-off load gear, places to leave your work boat for 2-3 day periods to work on seems critical to the marine industry.

A summer person took up the idea, mentioned by ten others, that has been discussed by the island fishermen of “branding” Chebeague’s lobsters:

The challenge will be to keep the fishing industry viable, because that is the backbone of the community. Maybe we need to brand Chebeague island lobsters they way Bangs island mussels are branded

Aquaculture was suggested by 4 year-round and 9 summer people:

I think Chebeague should do what it can to support the marine economy. I think fish farming, such as mussel farming should be encouraged. I think boat building is important. I am very pleased that the boatyard stayed a boatyard and was not sold for the best and highest use, such as housing.

Only a few people in each group thought that fishing was in decline.

Respondents made many suggestions of specific businesses that they thought might be useful and viable on the island (Table 4). By and large, year round and summer people had similar ideas. As Table 2 indicates, among the top suggestions, jobs that involve telecommuting (sometimes with the desire for better internet service) were discussed by 16 percent of year-round and 23 percent of summer people.

Table 4: Suggested Future Jobs or Businesses

	Year-round	Summer	Total
	N = 80	N = 152	N = 240
Energy utility	11 14%	7 5%	19 8%
Telecommuting	13 16%	35 23%	50 21%
Agriculture	14 18%	22 14%	36 15%
Forestry	4 5%	2 1%	6 2%
Island arts and crafts	7 8%	21 14%	28 12%
Fresh fish market	0	4 3%	4 2%
Aquaculture	4 5%	9 6%	15 6%
Boat building school	4 5%	4 3%	8 3%
Appliance service	4 5%		4 2%
Restaurant	5 6%	5 3%	10 4%

While the wireless internet is a big improvement over dial-up, we should pressure FairPoint to make DSL available. The town should encourage development of internet based occupations, and encourage writers, researchers, etc. to come and live here...there are many occupations which allow one to live pretty much anywhere as long as high-speed internet is available. Transportation and other costs will always put us at a competitive disadvantage; our advantage is our quality of life and the novelty and marketability of 'Chebeague Island' products.

Another wrote:

As the definition of "workplace" changes to things more virtual, the island should be a place where people can, with great ease and facility, work remotely and virtually. . . . The town and the island ought to encourage on-island, off-island real, and off-island virtual, entrepreneurs. In other words, the town ought to encourage commercial ventures on the island, with land use controls as needed. The town must and should maintain the virtual accessibility of "commerce" via the internet.

A third who actually does work on the internet was one of the few to give an example of a specific business that might be a model for Chebeague:

:

We should try to develop some island based business enterprise that would provide year round employment at a variety of skill levels (management, sales, product creation, shipping, etc.) and perhaps with flexible schedules to accommodate child care. With internet sales and the presence of our post office there are surely craft or food oriented

businesses we could undertake (look at Stonewall Kitchen in York as a stellar example of doing something with very little to start!)

Also popular, but at the other end of the technological spectrum, 18 percent of year-round and 14 percent of summer people thought that a revival of agriculture would be good for the island – preserving open space while creating income and jobs:

For some time I have thought the island could do more with agricultural use of the open land. Many small vineyards and microbreweries throughout New England have continued to do well even in this bad economy. I have a relative who just opened a small wine business and has done very well. Other areas of agriculture could include farming for honey, wild berries, and orchards.

This same person went on to say, along with 14 percent of year-round and 5 percent of summer people:

Another possible business benefit would be to invest in alternative energy to offset the cost of electricity. Perhaps solar and/or wind power.

Others mentioned tidal power as well.

Other businesses suggested particularly by summer people were a fresh fish market, including but going beyond lobsters, and more island arts and crafts. Ideas suggested by both year-round and summer people included boat building, a boat-building school, boat or kayak rentals, summer camp, and some kind of summer or year-round school or research center.

The major difference between year-round and summer people was in how they wrote about the “vacation”, “summer” or “tourist” sector of the economy, showing that “where you stand depends upon where you sit”. Only 4 percent of year-round residents saw the vacation economy as being as important to the island as fishing, compared with 26 percent of summer people. Indeed, 10 percent of summer people thought of tourism as the mainstay of the economy, with the best potential for growth:

The economy is a very important component of Island life and it is interconnected. Tourism is the future for the Island. The Island can become a tourist destination. It is a good thing if a sensitive balance is approached. Tourism creates ideas and many ideas have [been] realized. . . . A safe and beautiful community all adds up to be a tourist destination.

Another summer person from the West Coast wrote:

I know that maintaining these elements is important to the island economy. I am not sure I can begin to guess the ratio of importance. In our west-coast community, the "vacation" related establishments, particularly hotels, B&Bs, and vacation rentals, contribute to the local economy in several ways: 1. pay a county or city "transient occupancy tax" (10%!) that is collected from the visitor--- these funds go directly to the county or city general

fund; pay a self-assessment percentage (1%) that goes directly to the lodging association for tourism promotional efforts; attract visitors who frequent our restaurants and businesses. The danger is in the balance... or lack thereof. Our community has undergone the transition from natural industries, logging and commercial fishing, and now "hospitality" is our primary industry. A better balance is better.... tourism is too fickle to be the mainstay of a stable economy. Island arts are good, but need a venue outside the island to also sell. Reliable cell phone and internet access is essential to broaden markets and allow for low impact industry and individual work opportunity! Perhaps some educational facility--- even if only in the summer--- arts, sailing, marine biology, meditation, retreat center, could help in the balance.

Like these people, many summer people saw the need for balance, partly because over development as a tourist destination would destroy what brought them to the island. Nantucket, Bar Harbor and Peaks Island were all mentioned as negative object lessons. But 5 percent thought that tourism should be promoted, while others spun out ideas about what this increased tourism might be like:

Seven people (5 percent) suggested eco-tourism:

I worry about long term viability. Would like to see the tourism industry grow, with both day trippers and over night guests. Would like tourism to be a good fit with community and eco-friendly...e.g., kayaking / sailing / fishing / photography expeditions / schools.

Chebeague now has jurisdiction over several uninhabited islands. I see a possible future, similar to eco-tourism, which would allow people to visit and learn from these valuable and beautiful assets.

Four suggested being more open and hospitable to day-trippers:

Given the limited access to the island and the lack of transportation options once you arrive at either dock, the island is not exactly availing itself of the potential day-tripper market. Maybe it doesn't want to. Maybe it wants to stay a retirement haven, a bedroom community, an ever-shrinking lobstering town. I don't know. Has anyone ever thought of renting bicycles or golf carts at either or both ferry docks? Is that something the Rec Center kids could do? Would it be worthwhile to host an arts festival--either one- or two-day events?

Year-round people do see the advantage in the summer economy:

People who come here [in the summer] don't come to work but there will be people who need to work. People will work for summer people – more people more work – construction, etc.

Three even thought more vacationing on Chebeague should be promoted, though carefully.

But the problem is that a summer economy **is** a summer economy. Twenty percent wrote about the need for more year-round jobs, mentioning the Boatyard, and non-profits as good examples. Several others mentioned the need for island jobs to provide decent salaries and benefits.

On the other hand, few year-round residents wrote about work on the mainland as part of the island economy. The two that did simply presented it as a temporary expedient when island jobs were scarce. The 9 percent of summer people who wrote about commuting saw jobs on the mainland as an ordinary job option, maybe less attractive than telecommuting but providing access to a broader range of job opportunities. Five percent in addition emphasized the need to keep the CTC commuter fare affordable.

Here the problem seemed to be that working on the mainland and having a viable year-round economy on the island were thought of as mutually exclusive. A “realistic” summer person concluded:

Whether good or bad, I think that realistically, most will have to commute to mainland and I think most workers will have to commute to [the] Island from mainland.

Should the Town Encourage Economic Development?

Most respondents did not address this issue, though a larger proportion of summer people suggested things the Town might do. Nine percent of year-round residents wrote in general terms about the Town playing some kind of role. An additional four percent said that keeping property taxes low would help the economy. Several summer people argued that the Town should not burden business with regulations. Others suggested small business loans from the Town or an economic development non-profit. Providing professional advice to businesses and continuing education or other training to residents were also mentioned.

Education

The Chebeague School enjoyed overwhelming support from survey respondents. In general, year-round residents tended to write about issues of current discussion, while summer people provided general support or general, somewhat abstract ideas for possible improvements.

Almost a third of summer people emphasized how young families would not live on the island without the school and how much the school was the heart of the community.

The school is a vital part of the community--without it the Island will be a "summer only" island. Every effort should be made to keep at least up to 5th grade on the Island. Perhaps the school could sponsor trips for adults that require a donation to the school to attend -- similar to the Historical Society Trips? I am happy to pay more school taxes to assure get great teachers/aids to assure that our kids get an excellent education

The Island Institute's definitive study hangs over all of this. A viable school is the key to a viable year-round island. What I see of the current school is pretty amazing. I compare the kind of intimate, engaged, richly comprehensive education my grandson is getting on

Chebeague with the experience of his age-similar cousins around the country and there is no comparison. Perhaps some folk underestimate how good the island school is.

This view was echoed by 16 percent of year-round residents as well:

The school is what will help bring young families to the island. So we should be looking towards what we can do to make the education of Chebeague children one of the best in the state. Maybe it's to build a new school that connects to the Rec Center and send our students to NYA or Yarmouth. If you have a fantastic opportunity to educate the island's youth, families will see this and want to move here and become part of this community.

Both groups (13 percent of year-round residents and 9 percent of summer) described the island school and the community as intertwined – the one engaging the other.

At a slightly more concrete level, 22 percent wanted the school of the future to be like the school of today, and 6 percent wanted it to aspire to excellence. As two parents with children in the school said:

I would like to see our school become the exceptional school that it has the ability to be. I think that focusing more in experiential education and learning from the island and the life around us is an incredible tool for learning that is not used nearly enough. We should be looking toward members of our community to play more of a role in educating our children.

I believe that the island school is a gift that we should recognize and value. The children at the island school receive a good education and have a lot of authentic learning experiences, do in no small part to the role that volunteers play at the school. We need to be sure that we allocate funds adequately for the school, for continued use of technology, for good quality teachers, and for school staff to meet the needs of the children.

Eight percent of year-round and 17 percent of summer people thought that the present system of having pre-K through 5th grade on the island and middle and high school on the mainland should be continued. Year-round residents, like this one were more attuned to the stresses that the system created:

We must maintain our pre-K through 5 school, and we must provide a rigorous curriculum with adequate supports in place to ensure that our children are adequately prepared to meet the challenges of the mainland single-age classroom. Multi-age teaching is a challenge, and while it can provide many benefits, there is also a risk that island children are not receiving equivalent instructional time in core areas like mathematics and are at a disadvantage academically when they make the transition to the mainland. This is extremely important if we are to attract more families to the island and to ensure that all of our children achieve their full academic potential. Extracurricular opportunities for children in SAD 51 are fraught with difficulty. I would like our children to have an opportunity to transition to Yarmouth public schools as soon as possible, both for academic and extracurricular reasons. The burden on families of middle school and high

school kids is enormous: constantly trying to juggle their time and finances to make it possible for kids to participate in extracurricular activities (sports, clubs, drama, music). Many families simply cannot do this, and their kids suffer the loss. Others move off the island either temporarily or permanently.

Table 5: Education in the Future

	Year-Round	Summer	Don't know	Total
N	N= 85	N = 151	N = 9	N = 245
School keeps young families	14 16%	34 22%	0	48 20%
School at heart of community	0	13 9%	1 11%	14 6%
Keep school similar to now	27 32%	24 16%	4 44%	55 22%
Have school be excellent	7 8%	7 5%	0	14 6%
School engage community and vice versa	11 13%	13 9%	0	24 10%
Pre-k-5 on isl/6-12 on mainland works	7 8%	26 17%	1 11%	34 14%
Have simpler, cheaper school	4 5%	1 1%	0	5 2%
Student decline will close school	0	4 3%	0	4 2%
Future Mainland School				
Yarmouth	13 15%	2 1%	0	15 6%
School choice	9 11%	3 2%	0	12 5%
One mainland school	0	2 1%	0	2 1%
School of Excellence				
Have a charter school	0	5 3%	0	5 2%
Have a magnet school	5 6%	1 1%	0	6 2%
Add 6 th grade	3 3.5%	5 3%	0	8 3%
Have a middle school	5 6%	9 6%	0	14 6%
Have a high school	10 12%	10 7%	1 11%	21 9%
More use of	1 2%	8 5%	0	9 4%

internet					
Build school-Rec connector	4	5%	0	0	4 2%
Help older kids with transportation	4	5%	3	2%	0 7 3%
More college scholarships	3	3.5%	2	1%	0 5 2%
Need good daycare	7	8%	9	6%	0 18 7%
Have adult ed.	1	2%	5	3%	0 6 2%

There was also support from 7 people for the Pre-K program and enthusiasm from 7 percent (18 people) for the new day care program.

The daycare and the school are key to attracting and retaining young families. The daycare should be subsidized (reduced fees for every island family regardless of circumstance) and the school needs to have an outside consultant (perhaps via a grant) to help establish benchmarks from professional educators who have developed multi-age small schools. Excellence in these areas will attract families that can afford to purchase homes and survive the difficulties for living on the Island. The Island needs to capitalize on its excellent life for children and families while being commutable to an urban area.

Two summer people said they thought it should be a volunteer effort, not supported by tax revenues.

There were a few nay-sayers to this generally positive and hopeful image. One life-long couple wanted simpler, less expensive education:

THE SCHOOL HAS ALREADY BEEN PUT ON A PEDESTAL. AND IT'S HIGH ENOUGH. THE CHILDREN ARE ALREADY TUTORED TO THE HILT! ELIMINATE SOME OT THESE TEACHERS BY COMBINING JOBS. MORE EMPHASIS ON ACADEMICS. LESS FIELD TRIPS. THE SCHOOL SHOULD NOT DEVOUR OUR TAX MONEY UNNECESSARILY. HOW ABOUT A SMALLER SCHOOL BUS?

There were three other people who more gently suggested “saving when we can but keeping the school good”.

And four summer people doubted that the island would be able to attract enough families with children to deep the school going:

I'm not sure there will be a next generation of school children on Chebeague that will warrant keeping the school open. Unless more 20-30 year old couples relocated to the island the kid population will diminish quickly.

Beyond these generalities, respondents wrote about ways in which education might be changed and improved. Two issues got particular attention. One was the very practical and fairly immediate issue of where older students should go when the SAD 51 contract ran out. A second focus was the idea of charter and magnet schools.

On the first issue about education on the mainland, thirteen year-round and two summer people wanted Chebeague to enter into a contract with Yarmouth, for some, the sooner the better:

I would like to see the Middle and High School children go to Yarmouth. It makes sense to send them there because it is closer, they have a bus that already comes to Cousins Island, and the classes would be a little smaller than they are now. The children would also have a better chance at participating in sports as the school doesn't make sports the highlight of their school.

I would like our children to have an opportunity to transition to Yarmouth public schools as soon as possible, both for academic and extracurricular reasons. . . If we wish to keep the families we have, and encourage others to move here, we must make this transition now. The cost to our community of losing more families will be much greater than the cost of transitioning these students to Yarmouth before 2014.

On the other side, nine year-round and three summer people thought school choice at some level would be the better alternative. A year-round resident wrote:

I think the k-5 or k-6 school should continue. I think that parents should be allowed to tuition children to whatever school they want, including both private and public schools. Chebeague should not enter into a contract with another town to take Chebeague school kids.

And a summer person who has been coming to Chebeague for 59 years, thought that the ability to have school choice might in itself draw families to the island:

The current arrangement of grades seems reasonable and workable. In the future, however, I think that making Chebeague a tuition paying town might actually increase its attractiveness to families with teenagers who want more choice in education and who want to live in greater Portland or Southern Maine.

While these two respondents were thinking of complete choice of schools, one year-round resident asked only for transportation support to any school and another only included public schools.

But it was left to a graduate of the existing system to penetrate beyond the general attractiveness of school choice:

I am confident that the island school will continue to provide a high-quality education to our elementary-age children. I had a wonderful experience at CIS as a child in the 1990's, and I know that the talented staffers and board members at the school continue to insure

the quality of elementary education. I am more concerned about the secondary school students. I feel very lucky to have attended Greely High School, and I am happy to have made so many wonderful friends in Cumberland and North Yarmouth. Yet many of my age-mates did not adjust to the mainland schools as well, and some felt alienated from the mainland. I wish something could be done to address this issue. My deepest fear is that if island students stop attending Greely High School and Middle School, they might be scattered among different mainland schools. I think that would destroy the already fragile sense of community among island students in grades 6-12. If island students are no longer able to attend Greely, I hope they can switch to a different school as an entire group.

In relation to the Chebeague School, rather than the mainland school, a number of people were interested in the idea of making the school itself a greater draw for families with children by making it a charter or a magnet school. The two ideas are not the same – charter schools are private or quasi-private schools and magnet schools provide a specialized curriculum such as science or the arts that attracts especially good students. But here both were used to describe a future Chebeague school that would be excellent, innovative and technically advanced.

I would love to see the school pick up a theme and work align the learning results around those activities. Some ideas - Coastal habitats, leadership, life cycles or even more general - science, art, With the small staff it would be important that it was not dependent on any one teacher as we would not want the institutional knowledge to leave with the teacher. The school embraces many volunteers who faithfully serve year after year and they could play primary roles in the learning process. Personally I have always wished we could serve our students grade 6-8 but the students and the parents of those students have for the most part indicated an eagerness to have the mainland experience at that time.

Like this person, others thought that this kind of strength might make it possible for the school to expand back to 6th grade (8 people), to a middle school (14 people), or even to a full Pre-K – 12 school (21 people though seven of these said they thought the idea was good but probably not practical). A summer person gave instructions for where to go for information:

“It is vital to make Chebeague attractive, financially feasible, and even exciting place to raise children. Here is a beginning list of options to explore: Work with Maine Association for Charter Schools <http://www.mainecharterschools.org/> establish the Chebeague Island School as a charter school with the focus on identifying best practices for rural/island schools and seeking out excellence in the teaching staff. It is vital that all interested on the island consider this school 'theirs' and be invited in timely and effective ways to offer their time, talent, and service.

One year-round resident used another unconnected island as a model:

Work towards a K-12 full school, with both day students and boarders for children from off-island. Make the upper school a magnet for students from away (like the North Haven School).

And a second saw internet technology as the key to this idea:

Our current, Town of Chebeague model seems to work. With a more secure/stable internet connection, more virtual/online/interactive learning opportunities should be pursued and implemented. It would be exciting to pursue the possibility of establishing a 'magnet' middle/high school on Chebeague which would support our island children and attract mainland children.

There were also many other specific suggestions for things respondents would like to see:

Experiential education (5 people)

Renovating the existing school building (1)

Building a connector from the school to the rec (4)

Making more use of volunteer helpers in the school (2)

Encourage higher education by having more scholarships (6)

Having some adult education at the school (6)

Having students preserve island history by interviewing older residents (1)

Look for ways to make commuting to and from the mainland for extracurricular activities easier (7)

Summer school for island and mainland kids (2)

Better lights on the Cousins Island Wharf for kids going to and from school in winter (1)

Have home-schooling after 5th grade (1)

Working more with schools and Long and Cliff Islands (1)

Having a place on the mainland where parents and students could stay if necessary (1)

Teaching kids that gossip and backbiting is bad (1)

Support the program with more grants (1) and special programs (1)

Community

Maybe not surprisingly, the answers to the questions about what the future community should be like and what the future population should be overlapped and reflected what respondents had said about the school, as well. Many people saw connections between who the future population might be and what kind of community and school they would create.

Overall, a third of all respondents just said they liked the character as it is now:

WHY CHANGE ANYTHING? CHEBEAGUE'S SIMPLICITY, CHARACTER, BEAUTY, DIVERSITY AND SENSE OF COMMUNITY CAN'T BE BEAT! LET'S PROTECT IT FOR THE FUTURE GENERATION.

In fact most people who went beyond the most simple statements of support, basically described what they liked about the community rather than thinking about how it might change in the future. An additional quarter of the year-round respondents described it particularly as a caring community – one that gave people autonomy but provided help if it was needed. Two had similar thoughts:

Chebeague is a caring community! What could be better than to be sure we know our neighbors' needs and respond to them as people are doing at the present, whether on the island year-round or away, but still concerned and in touch.

I love the caring and concern that Chebeaguers show for one another and I hope that will always be a quality that we hold dear and try to continue. In times of crisis (which can arise when least expected) there will be people that will come together and solve (or at least try to) the problem. When people live with the expectation that everyone helps and we are all part of the whole we become a much better place. I think many Chebeaguers take that for granted until they go elsewhere and notice the autonomy. People learn a certain patience and tolerance living on an island . . .

Nine percent of summer people said the same,

I see Chebeague as having a true sense of community, where people pull together, care and really look out for each other. It is a year round working community with a population diversified by age, income, summer and year round residents. Preservation of this community depends largely on keeping the school and keeping housing affordable for all segments of the population. As a summer resident, I like the friendly, low key environment . . .

It may be that living year-round on the island through winter storms and with a smaller population makes this caring quality not only more evident to year-round residents, but also more important. Instead summer people tended (5 percent) to say that the community was welcoming and inclusive.

Both year-round and summer people wrote about the importance to the idea of community of the island's history

Heritage, sense of history and local traditions. We must not forget where and how we came to be on this great island. Our families for generations have survived doing as our forefathers have done and I want my children and grandchildren to be able to enjoy and prosper from their heritage.

Eight percent of all respondents (19 people) wrote about the role that the many island non-profits played in maintaining a sense of community. Six percent emphasized the importance of participation in these organizations. An additional six summer people emphasized particularly how they made it possible to meet other people. Most of the people who wrote about them favored maintaining many organizations, though three year-round residents did suggest some consolidation. In the same vein, 6 percent of all the respondents mentioned the plethora of activities on the island as contributing to the strong sense of community.

Two summer people captured this aspect of community:

I have been a summer native my entire life (60 years) and in that time, I have seen few obvious changes in Chebeague's community characteristics. I have noticed, though, that there seems to be more of a sense of community over the last 20 years or so - due largely to the website (posting activities, etc.), the Rec Center, Commons, and other organizations that bring people together. This is what I hope will continue for future

Table 6: The Future of the Chebeague Community

	Year-Round		Summer		Don't Know		Total	
	N = 81		N = 159		N = 11		N = 251	
Keep as is	31	38%	49	31%	2	18%	82	33%
A caring community	20	25%	14	9%	3	27%	37	15%
An inclusive, welcoming community	0		8	5%	1	9%	9	4%
Keep heritage alive	6	7%	20	13%	2	18%	28	11%
Keep it simple	7	9%	5	3%	0		12	5%
Protect island env't/open access	7	9%	8	5%	0		15	6%
Keep having many non-profits	9	11%	9	6%	1	9%	19	8%
Consolidate non-profits	3		0		0		3	1%
Participation in organizations is important	9	11%	6	4%	1	9%	16	6%
Having many activities adds to community	4	5%	10	6%	0			
Feeling of safety	0		3	2%	0		3	1%
Make island more affordable	4	5%	7	4%	0		11	4%
Socialize new residents	5	6%	0		2	18%	7	3%
Have another bar	1	1%	0		2	18%	3	1%
Have a bridge	0		1	.6%	3	27%	4	2%

generations..... a great part of this is intangible & hard to describe, but it's that "feeling" and sense of home that I get when I step onto the stone pier for the first time each spring. It fills my soul.

It's an amazing place with so much energy and commitment. Few small communities can rival it. It seems to draw the best from all, including the infusion of funds from vacationing families and support of core activities and social events from the long-term residents. I'm very impressed with how this all works so well on Chebeague.

And a year-round resident wrote about the centripetal effect of modern media that even a small, caring community is subject to:

The single most important thing in maintaining Chebeague's unique culture is participation in community at high levels. Keeping a large workforce, like fisherman and builders on the island (i.e. people who live and work there) enables and encourages that participation. I think that anything that can be done to get people to get out and interact regularly will work toward that end. Technology is biggest threat to that. Watch TV, calling on the phone instead of "calling on" your neighbor, the web. All important components of modern society that aren't going away; the challenge is to make the personal experience more enticing. I think the community here does that well but it must be encouraged more and more as the technology increasingly becomes part of the island. The Boat, the store, the hall are all important centers to me.

Another thread in the fabric of Chebeague's community that people commented on was its simplicity and the desirability of maintaining it. Year-round people tended to think of it as not becoming like the mainland:

I am loathe to see the rush to conformity with the mainland. People from away ask what makes the island so special? The answer – it's not the mainland. To be sure not all things are convenient, but it seems to me for every "amenity" gained, we edge a bit more away from the character of what we love most about this place.

But "mainlanders" expressed somewhat the same sentiments in saying that they wanted island life to remain slow and quiet.

Finally, there were a number of respondents who included in their idea of the "community" the natural beauty of the island and the fairly free access to places on it.

As a summer resident, I like the friendly, low key environment, the natural beauty of the island and the views, the open spaces and access to the beaches and water, the freedom of movement and the escape from the mainland hustle and bustle.

A year-round resident explained how the community defined attitudes toward the natural environment and how this was its most attractive characteristic.

Chebeague's sense of community is its strongest drawing factor for old and new residents. Need to protect it. There is an opportunity for these values to shape more of our physical environment - e.g. keeping the coast open - sharing access and responsibilities for maintaining shared areas - shared sense of land and sea stewardship. Make our character part of a strengthened export - branding of Chebeague - whether it is our lobsters- our crafts - our summer rentals - our internet-based businesses ...

Given all this enthusiasm for the various elements that create a unique sense of community on Chebeague, some people did write about how it might be maintained, or even improved. Some year round people emphasized the need to socialize newcomers to the heritage and traditions of the island:

The community should welcome newcomers but inform them about island history and traditions so that fishing rights, shore access, trails, etc. remain a part of island life.

Population

Thinking about the nature of the community led some people to think about what kind of people they thought were particularly important contributors to the sense of community. The two most common ideas were that diversity of age is a strength of the present community, combining the wisdom of age and the new ideas of youth, and that attracting more young families would strengthen it more, especially by bringing new blood into the island economy and maintaining the island school.

This turned out to be a good introduction to people's answers to the question of what kind of population mix they thought the island should have in the future. There was a small proportion (5 percent) of respondents who thought it was pointless or even improper to think about shaping who lives on Chebeague in the future.

Populations have waxed and waned and will continue to do so. Let people decide what is in their self interest. Look! There are cellar holes all over Maine as agriculture moved to the midwest....that's OK. We now have more forest! Don't even think of subsidizing specific industries, or populations...let people and the market decide!

Another 17 percent said they thought the current population mix was fine and that it should be maintained. A year-round resident wrote:

I would like it to be as is. It is a hard way of life in the winter but in the summer we get many outsiders and that helps keep everyone going in the winter. We must not be taken over by the large city influences. Internet services and cable tv. Would help a lot of people stay on the island and work from their homes on a cottage industry business. Keep the transportation fees for commuters in line with gas prices. I have not heard one person that goes to work every day complain about riding the boats! That is because they want to live where they do. Just keep taxes and prices of services affordable for us all.

Table 7: Future Population

	Year-Round		Summer		Don't Know		Total	
	N = 76		N=153		N = 12		N = 241	
Keep same mix	18	24%	20	13%	2	17%	40	17%
Stay diverse	10	13%	22	14%	2	17%	32	14%
Larger population	0		7	5%	1	8%	8	3%
Age								
Mix of ages	13	17%	18	12%	0		31	14%
Not just a retirement com.			4	3%	0		4	2%
Attract/keep young families	30	39%	53	35%	5	42%	88	37%
Encourage more retirees	6	8%	17	11%	0		23	9%
New & long-time families	3	4%	0		0		3	1%
Youth 18-29								
Encourage to stay	6	8%	14	9%	0		20	8%
Leaving is normal	6	8%	4	3%	0		10	4%
Some come back	5	7%	3	2%	0		8	3%
Eco & social life not good for them	3	4%	12	8%	0		15	6%
Income								
Mixed income	8	10%	9	6%	1	8%	18	7%
Keep island affordable	0		5		0		5	2%
Higher median income	0		8	5%	2	17%	10	4%
More job opportunities	0		16	10%	0		16	7%
Summer Population								
Not just summer	7	9%	6	4%	0		13	5%
Have balance of summer & YR	0		12	8%	2	17%	14	6%
Summer people are important	4	5%	0		0		4	2%
Can't/shouldn't control who comes	5	7%	6	4%	2	17%	13	5%

Another said:

I really don't see anything wrong with the way it is. *Why not?*

But the question itself, by highlighting differences between the island's demography and the state's as a whole, nudged people, and especially summer people, away from simply accepting the current pattern. This produces ideas that might not otherwise have emerged and produced a diversity of views about how some issues might be dealt with that amounted to a "conversation" on policy options.

Fourteen percent of respondents (with no difference between year-round and summer people) said that the population should be diverse. It should not become either an island of summer people (13 people) or a retirement community (4 people). An additional 17 percent said they wanted diversity of age groups, but added that they also wanted to see more working families with children.

I would like the current levels maintained, with perhaps more families with young children. Young families tend to invest themselves in building community, and they have infectious energy and positive attitudes. Not to say others don't, but I think the young families are effective engines.

I would hope the year-round population would be more aligned with a cross-section of 'anywhere, USA', with a mixture of growing families, working head(s) of families, and retirees... some children will move away, but some families will move on island if there is a steady economy, and good connectivity to the mainland (data, transportation, healthcare, etc.) - I thought the summer population was bigger, but 1-3000 is probably fine... the houses aren't really crowding each other yet like some of the other islands nearby - could probably sustain a larger 'snow-bird' population, or whatever the reverse is called for the folks who summer on Chebeague 4-6 months a year, rather than the 4-6 week vacationers...

A few saw this as essential to balance out a likely future increase in both retirees and summer people. The retirement of the baby-boom generation would be likely to bring more retiring summer people – three summer mentioned in the survey that they hoped to retire to the island, while the expansion of summer families over the generations could increase that population as well:

Again more people between 18 and 30, and older but still in child-bearing years. Probably will have a lot of baby-boom native islanders and summer people retiring to/on Chebeague over the next 10 years, need to balance them out. Probably will have major growth of summer people as long-time families have more generations. These latter two groups will bring income into the community, but again, balance with younger people.

Another 30 percent wrote primarily about keeping and attracting young families

I would like to see an increase in the number of people with young children. I believe that the school and families are central to keeping the year round population growing and healthy. But we can't depend on children raised on the island to always return here to raise their own children. We have to look at making the island an appealing place to people from outside so that we can attract families and create diversity.

The focus on the importance of the school during the secession movement seems to have raised consciousness about the need to keep it well supplied with children as one central piece of a sustainable year-round community.

Focus on increasing the share of the year-round population in the 30-55 age-group. This means attractive on-island job opportunities and easy access to work on the mainland - minimum critical mass of younger people in this age group, about 40 couples, essential - need the kinds of services that attract this age group - great school (we already have the nucleus); childcare (getting started!); fun places to hang out together in the evenings during the winter (nothing at all in the winter except organized social activities) - If we achieve this - the rest of the demographics will be much healthier - and better supported whether through volunteer services like the fire department and rescue or family/friends/community networks.

Like this person, some people wanted incentives to get families to come

I believe we need to create an environment where young people and young families will be attracted to the island. This could be achieved by offering a subsidized daycare, an excellent school (not a Cumberland clone), a well-supported middle and upper school program with assistance for transportation issues and reduced-rate hotel rooms, reduced income housing (to attract skilled tradesman) and a robust recreation center.

Others argued for being cautious about the possible problems associated with incentives for people "from away".

The statistics presented here are helpful. A mix of ages and incomes is essential. It would seem that we are a little high on retirees and a little low on young children. I think it is important to have young families on the Island, but not to the extent of luring them here with offerings, as I have heard suggested. Many people are not suited to Island life, and incentives to live here would bring people for the wrong reason, and they would not stay. I know we need to plan for the future but I think the population makeup has been working well as is, without "manipulation".

One summer person did raise the argument often heard in mainland communities about the problems that could result from attracting young families with children.

It looks good now. If we had a huge influx of younger people they would possibly need more tax dollars to educate children. And like a lot of seasonal communities, the tax \$ would come from the summer cottages and year-round water front homes – pushing prices higher as 2nd and 3rd generations inherit and can't afford higher taxes. As the

waterfront values increase, so do the interior lots and then no one with an average income can live on Chebeague. It's a fine balance. Be careful.

Though, as the year-round resident above noted, the island is "a little high on retirees", 8 percent of respondents thought more retirees would be useful because they have the time and skills to work for voluntary organizations, sometimes pay substantial taxes and, mirroring the concern of the one just above, they don't have children in the school. The same arguments were made about summer people

It seems to have a very nice mix at present. Summer residents don't use the school or other facilities, but do pay a good deal of taxes. I can only imagine that this helps the town with much needed income.

The relatively small proportion of Chebeague's population between 18 and 29 generated what amounted to a conversation on the reasons and possible solutions. Eight percent of respondents wrote about encouraging young people to stay on the island.

We need to figure out ways to incentivize young people to stay. I think there is some indication that there is an indigenous boat building skill base that someone should galvanize and create a business that could be an alternative to lobstering.

But 10 people (4 percent) said it was natural for young adults to leave the island – to go to college, to explore themselves and the world. As a year-round resident wrote:

This is a difficult place for 18-24 year olds. That is an age where you're going off to college and spending time with peers. Chebeague limits those activities.

And another:

It is notable that there is a lack of young adults compared to the state population but I don't think this is a bad thing. It's worse if people grow up here and never leave and experience other places. If they come back they usually are committed to the island and realize its specialness compared to other places. I am not sure it's particularly "healthy" place for young adults in terms of opportunities for work, recreation and social things.

Like this person, five year-round people pointed out that some return later, with stronger commitment to island life. Another 18 (7 percent) had a darker view, saying that the present economy has few good jobs for young people and a pretty slow life-style.

The lower than state normal (and even lower than national I think) % of 18-29 suggests a problem with attracting or retaining young adults who will be the next generation. This is probably due to the slow lifestyle and limited job opportunities. The slow lifestyle, of course, attracts retirees. I'm not sure this will really change given the over characteristic of Chebeague. However, I think it would be desirable to increase the % of young adults in order to keep the community alive and vibrant.

The most common solution to this problem, mentioned by 10 percent of summer people, was the creation of more job opportunities. Seven particularly mentioned telecommuting jobs as a possibility but were not specific about how this would work.

The fairly low island median income on Chebeague seems to have been known to year-round residents, but it seems to have come as something of a shock to some summer people. One summer person wrote:

It seems obvious that on a median household income below statewide average, it would be crazy to assume Chebeague could attract many "average" families. Housing, land, transportation, school complications are all working against the average family trying to make a go on Chebeague. Young adults must either get very creative in their income generation and budget well, or have access to more than the average year-round income. This is an unfortunate trend. It seems we really need to figure out a way to retain families, attract and hold small businesses on Chebeague.

There were two different "takes" on this issue. One, discussed by 17 percent of summer and 10 percent of year-round people, was to try to create jobs that would provide more income. The other, mentioned by five summer people (2 percent), was to make living on the island more affordable.

As some respondents had said in relation to the economy, 7 people thought that a larger year-round population would help the island economy and community.

I would like to see the year round population continue to increase so that opportunities for additional year-round businesses could also increase. We need more people. Those who are here year round are shouldering an enormous burden in terms of time and resources trying to keep all of our many island institutions alive. We need to encourage people of all ages who have the both the desire to live here and the willingness to contribute to our community.

Finally, summer people had some specific concerns about the summer population. They were the 12 people who mentioned the desire to have a balance of summer and year-round residents. This may have reflected some ambivalence since two additional summer people wondered what rate of growth in the summer population would be appropriate for the island, and three others said the proportion should be no larger than it is now, and maybe even smaller.

At a much more specific level, a few summer people worried about the end of summer life on Chebeague as they had known it.

Seems like we're losing so much of the island character as life-long residents and long time summer residents die off. In another 20 years all the baby boomers that came to the island post WWII and spent all their summers there will be gone. None of our children, even though they would love to, can afford to spend their summers on the island with their kids. With the economy as it is, those of us that live year round more than 300 miles away may not be able to get back. I would love to have Chebeague keep going as it is,

but I see short term renters from neighboring states becoming the mainstay of the summer population by 2030. It's too bad, but the island will never be the same once that happens.

Land Use

The responses to the questions on future land use show Chebeaguers, both year-round and summer, grappling with what the balance on the island should be between the natural and the built environment. The question itself posed this dichotomy, briefly describing the current mix of single family houses, businesses and public and private open space. The people who answered the question (33 did not) gave these elements their own policy “spin” producing several distinct images of the future and a wide variety of policy ideas for getting there.

Chebeague has had a human landscape since the 18th century. Though its maximum year round (and probably summer population) were reached in about 1890 to 1900 (about 600 year round residents), the landscape remained rural – scattered farms with open fields, denser settlements at ferry wharves and a few other spots. Even as late as the 1960’s there was still some farming, and as the farming stopped, many of the fields grew up into second-growth woods. Some wood is still harvested for use. So the island still “feels” rural. But residents and summer people alike see that the development boom that began in the 1970s makes the survival of this rural character increasingly tenuous.

The single most common response on the land use question, mentioned by 41 percent of all respondents, was the preservation of open space. Access to the ocean, the Town’s largest open space, and a central part of its economy, was the second most common response, mentioned by 25 percent of all respondents.

While these were the two most mentioned issues, the respondents wrote about development in somewhat different ways. Just over ten percent (11percent) only wrote about the need to preserve the natural environment, not only woods, wetlands, beaches and views, but also farming and managed forestry.

I very much like it that land development has been limited. I love that the access to the beaches is unmarked and parking is limited but available at the hook, Johnsons beach, chandlers cove, Roses point, etc. I would love to see an inland park with a view of water somewhere. But t keep the wildness wild, we need to keep limiting development. I would love to see my children's children enjoy the same Chebeague with no road signage, no public water or sewer, because the population density is low enough it is not needed. There should be no need for urbanization. Just preserve the natural beauty that is Chebeague.

Some were briefer:

It would be nice to be able to leave some land undeveloped.

At the other end of the spectrum, 25 percent of the respondents wrote only about the built environment – both about what they would like to see and what they feared might occur in the future:

I'd like to see sprawl discouraged. Perhaps creative zoning could encourage more hamlets, although the soils and water table pose challenges when it comes to wastewater disposal (most of the current hamlets would fail the state plumbing code). Inland hamlets (maybe with communal waste disposal systems and even apartments) would make housing prices more affordable. Some apartments would provide better housing options for young adults and the elderly.

In between, somewhat more than half the respondents (52 percent) wrote about balancing the built and natural environments – how the development that they knew was inevitable could occur, with guidance from public policy, and not at the expense of the island's natural resources and rural character. It seemed as if where they started was important. Somewhat more than half (29 percent of all respondents) started with their desire for open space and then described how they thought development might occur without sacrificing that.

No matter where you are, the balance between development and preservation is challenging. First and foremost, I believe any future "growth" must be managed with our natural resources and carrying capacity of the island in mind. Water is the number one resource we must preserve and use wisely, much more so than mainland communities. Open land for farming will be, in my opinion, increasingly important. And the natural beauty of the island is part of the reason we all love Chebeague and must be preserved. Having said all that, I am a strong believer in private property rights and have experienced governmental intrusiveness first hand. I think that planning must occur within the framework of preserving and enhancing "community life" and that personal property rights must be upheld within the context of personal responsibility to that life. The one thing I want to avoid is having Chebeague become reduced to a "resort" island.

Another 18 percent started with housing or economic development. They focused first on the development they wanted or didn't want but added ideas about open space as well. A year-round resident said:

- We should encourage development in existing, perhaps new hamlets to discourage sprawl.
- We should preserve open space for aquifers and wetlands protection, special habitats and marine resources
- We should maintain and increase public access to the shore
- Develop and sustain affordable housing.

A second said:

Continue zoning as is – I do believe we should always give positive consideration to any small business applications. It is rewarding to me to see jobs becoming available in a place like the Commons, Boatyard, Rec Center, etc. – a positive direction to encourage people to come/stay on the Island. Continue to accept gifts of land for open air purposes and seriously make an effort to secure more ROWs to beaches. Consider selling waterfront property with a rider that people be allowed to walk their beaches above high water mark.

A third emphasized more what s/he did not want:

Stay away from multi-family housing such as apartments, etc. as I am concerned about the island's resources for supporting us – i.e. water mostly. Also sewage systems impacting groundwater. Keep zoning for new houses to require large lots. Cap the size of new construction (square footage and height) as massive houses use up unfairly disproportionate amounts of resources. Require new houses to have some “green” features? Keep up the good work of the Land Trust, etc. to preserve large natural spaces. Maintain public access to beaches and make them more obvious . . .

There was a final small group of “balancers” who were so even handed between the two that they had to be coded as trying to strike an even balance:

Land use and development should be managed based on a comprehensive plan and integrated zoning ordinance. Which this survey is starting, thank you! Preservation of open space needs to be addressed while also creating development opportunities for lower cost housing. I personally support "cluster housing" where hamlets are created and larger blocks of open space are preserved.

And there were 10 percent of the respondents who didn't really fit neatly into any of these categories. Some were primarily concerned about keeping taxes low.

One and a half acre lots are fine. If they get larger than the cost increases and the average young guy is out of luck. Of course, the shore property is already way beyond affordability. If we do not want to lose more tax revenue we had better slow down on the land trust idea.

Some, respectful of private property rights, did not want the Town to play a large role in development decisions:

Truthfully, I believe the landowners should be able to make those [land use] decisions. Of course we want to maintain the island's beauty, but sometimes in order to grow there needs to be change.

Summer and Year-round Residents

Overall, as Table 8 shows, there was surprisingly little difference between year-round and summer people. More than half (52 percent) of the year-round people wrote about preserving open space – woods, fields, natural beauty, trails, wildlife, or encouraging forestry or farming – compared with 42 percent among summer people. But this issue was mentioned most often by both groups. The difference was less on preserving access to the shore – 29 percent for year-round and 23 percent for summer people. In both groups there were some respondents who particularly emphasized the need for fishermen to have water access and wharves.

When people thought about what development in the future should be like, the respondents followed two rather different strategies that we just saw above. One, taken by 39 percent of year-round and 42 percent of summer people, was to say that they liked the current low density

pattern of development and did not want to see it change. They wanted minimal development, done “slowly”, “carefully”, “sparingly” or “cautiously” as various people said. As a summer resident said:

Table 8: Year-Round and Summer Residents’ Ideas About Future Land Use

	Year-Round	Summer	Don’t Know	Total
N =	82	153	9	244
Open space	43 52%	57 37%	1 11 %	101 41%
Shore access	24 29%	35 23%	1 11%	60 25%
Low density/as is	32 39%	64 42%	3 33%	99 41%
Higher density OK or cluster w open space	12 14%	25 16%	0	37 15%
Afford. housing	16 19%	27 18%	1 11%	44 18%
Attract/keep young people	10 12%	19 12%	0	29 12%
Monitor wells/septic system	8 10%	11 7%	1 11%	20 8%
No more big/high priced houses	3 4%	16 10%	0	19 8%

We should make it possible for the future generations to enjoy Chebeague as we have. I hope for as little change as possible.

Some, not all of whom were year-round residents, said that growth in the year-round community was more acceptable than growth among summer houses. Maybe year-round residents could be given preferential tax treatment, or even be the only ones allowed to develop at all.

They often listed the kind of development they did **not** want – no condos (7 people), no duplexes (7), no apartments, sometimes described as multi-family or high rise development (24 people), no subdivisions (3), no large developments (9) – only single family houses (9 people).

I feel strongly that the island should not allow - or at least restrict - multi-family development, specifically condos and/or apartments. As I mentioned before, I support slow, responsible development, if any, and there should be strict zoning regulations to that effect (there may already be such regulations).

The other strategy, taken by somewhat more than 15 percent of year-round and 16 percent of summer people, was to say that higher density development could be appropriate for the island in certain places or for certain purposes. People in this group were particularly likely to suggest cluster development where subdivisions are designed to maintain an overall low density but use smaller than usual lots for the housing while keeping a sizeable part of the land in open space or

farming. Overall, 18 percent of respondents mentioned cluster housing either by itself or as a way to retain open space.

Traditional zoning is the death of community. I would LOVE to see smart development that strengthens the island's "hamlets," as you call them, and preserves its open spaces. I'm all for well-designed cluster and multi-family developments. If the island builds out in 1.5 acre increments, it will be nothing more than another suburb, just harder to get to.

As this respondents shows, for this group apartments and duplexes were more acceptable; 19 percent thought they would be ok, with no difference between summer and year-round people. There were also nine more people than this one who picked up the idea, mentioned in the question, of "hamlets", traditional or new, that might become the focus of development. One person did ask whether the "hamlets" recognized themselves as such. Some did specify particularly that such higher density housing should be built to fit into the traditional "look" of the island, and a couple hoped to do it simply by subdividing existing large houses. A couple of people noted that it would be easy to hide such development by keeping it away from the roads.

The primary reason most respondents gave for being willing to have duplexes, apartments or clustered houses was to provide affordable housing (20 percent of year round and 18 percent of summer) to keep or attract young people, especially families, to live on the island. A few summer people also said it would be nice to have apartments or condos for seniors who were tired of home maintenance.

The Cumberland zoning concepts and whatever vision they embody/embody need to be revisited and adjusted to reflect an overall vision and plan that preserves precious open space, forest, water access and identifies places and ways that can be further developed, including the idea--mentioned above--of creating more affordable housing for young island families seeking both to stay and grow on the island. This will inhibit some individual use, too much objection, but unfettered do-your-own-thing will produce clutter, privileged enclaves with increasingly exclusive waterfront use and a serious socio-economic division that will erode the character of the island community.

Aside from these general ways of thinking about development, the supply and quality of water was an important issue for many people. Some focused largely on it, while for others, like the person who didn't want multi-family housing above, it was an underlying reason for their policy ideas. A number of year-round and summer people wrote about the need to make sure that development did not exceed the capacity of the aquifer, or the need to monitor possible interactions between wells and septic systems. There were even five people who were so concerned about the quality of the groundwater that they thought the island should build public water and sewer systems.

Finally, the respondents had many other, particular ideas about future development on Great Chebeague and how it might be achieved. These are just some:

Green building 4
Alternative energy 8

No private piers 2
Construction loans to young people to build houses 1
Build a bridge 2
Historic districts 1
Plan for Sunset Landing 2
Use summer houses for winter rentals 1
Rental storage facility 1
Mini-boardwalk along the shore with shops and restaurants, like Bailey's Island. 1
Allow home occupations 1

Town Facilities and Infrastructure

What would you expect residents to say about future town facilities and infrastructure – repair the roads? Test the water? Have a new gravel pit? Humdrum and predictable. In fact what they said – encouraged to think broadly by the question – was that they *were* interested in road repair (19 percent) but even more in energy independence (about 32 percent) and more and better electronic communication – internet (18 percent) and cellphones (16 percent).

As with most of the other questions 13 percent of all respondents said they were satisfied with the facilities and infrastructure that the Town has already.

I think our current infrastructure will be adequate, perhaps with minor enhancements or refurbishments.

An additional 5 percent of year-round residents (4 people) said specifically that they didn't want the Town to do more than it was doing now.

Among what might be thought of as humdrum or routine facilities and infrastructure, the highest priority was for road repairs (19 percent or 44 people). Not surprisingly 25 percent of year-round people who see the roads deteriorate in the winter cared about this, but 15 percent of summer people did as well.

Most of the island's roads are deplorable, one of the biggest frustrations I had with Cumberland governance. I would like to think that our existing tax base can support a meaningful re-paving effort.

They were not naïve about the cost; many mentioned it as likely to be significant:

The roads need to be upgraded - can we afford to do this?

However, there were a few contrarians who argued for leaving the roads as they are.

I think the Island infrastructure is excellent for what the Island is. If you build better roads, there will be more speeding and a good bump in the road builds character. What you currently have is very special.

A larger Town Office (3.5 percent or 8 people) and a larger fire barn (2 people) got some attention as well; and 7 people or 3 percent said that emergency services should continue to be a priority. One of the most elaborate answers on this question from a year-round resident covered

Table 9: Town Facilities and Infrastructure

	Year-Round N = 80	Summer N = 140	Don't Know N = 6	Total N = 226
OK as is	9 11%	20 14%	1 16%	30 13%
No added facilities or services	4 5%	0	0	4 2%
Repair roads	20 25%	21 15%	3 50%	44 19%
Don't repair roads	1 1%	1		2
Have trail system	12 15%	7 5%	0	19 8%
Larger Town office	4 5%	2 1%	2 33%	8 3.5%
Monitor water quality	1 1%	13 9%	0	14 6%
No Town sewage treatment	10 12%	14 10%	1 16%	25 11%
Septic system maintenance program	5 6%	7 5%	1 16%	12 5%
Alternative energy- general	13 16%	6 4%	0	19 8%
Wind energy	25 31%	29 21%	0	54 24%
Solar energy	9 11%	20 14%	0	29 13%
Biomass energy	4 5%	5 4%	0	9 4%
Tidal energy	2 3%	9 6%	0	11 5%
Geothermal energy	4 5%	0	0	4 2%
Better cell phone service	14 17.5%	22 16%	1 16%	37 16%
No cell tower	0	2 1%		2 1%
Better internet service	11 14%	30 21%	0	41 18%
Support Chebeague.net	5 6%	12 9%	0	17 7.5%
Want cable service	4 5%	9 6%	0	14 6%
Town support/explore	3 4%	3 2%	0	6 3%

supporting CTC				
CTC & parking at Sunset Land.	4 5%	6 4%	0	10 4%
Bus/shuttle service on Island	7 9%	17 12%	0	24 11%

this ground and more:

Public facilities should support the basic needs of the population. They should be well cared for and optimized to deliver specific required services at minimal cost to the taxpayers. Infrastructure that is directly connected to public safety is the highest priority. Safely storing fuels sources, road surface and ditching practices, driver visibility, disposal of hazardous waste, fire & Rescue – snow removal, facilities to encourage proper maintenance of septic systems and the like... Next is infrastructure that can reduce the burden to taxpayers: improved efficiency in delivering services, energy savings through

improvements, energy projects to reduce energy consumption requirements, assistance to water transportation systems. Facilities to support administrative functions of government Lastly infrastructure that improves the quality of life; supporting library and rec center, communications, trails. Infrastructure such as roads and bridges currently present the biggest challenge.

In terms of water and sewage which was mentioned in the question, 11 percent rejected the idea of a public sewage treatment system as unnecessary and expensive. A few said it might be needed if there were areas that would have higher density development and a few more pointed out the down side:

The risk of expanding infrastructure is that it facilitates more development. All decisions regarding infrastructure development must be made after first asking is this going to have positive long-term benefits or will it, in the long run, only hasten change that impacts on the character of the island. In the case of high-speed internet service, for example, that enhances the quality of life on the island without altering the fundamental character of Chebeague. A sewer system, while totally impractical, would unleash development that would destroy the island.

And 5 percent (12 people) suggested that the Town have a septic maintenance program or at least get rid of the still-extant cesspits and outhouses. Six percent also thought that periodic testing of the island groundwater would be a good idea.

Maintaining the system of paths, also mentioned in the question, was supported by 8 percent of respondents while 4 percent mentioned keeping rights of way and access to the shore. Most people simply mentioned these things in passing:

I would love to see a more public walking trail system encouraged and set up all over the island which also could be used for cross country skiing. All paths to the ocean should be made public when possible. The more we have, the less of a burden it is on a few.

But one summer person had a more elaborate idea of what a trail system might be like:

Perhaps a marked walking trail system -- with simple markers as to historical sights, tree and plant names -- would be nice for visitors to the island to access. Might be difficult over private lands -- perhaps but in the Trust and town areas. Is there an Eagle Scout troop that could take this on as their mission?

But in a year when energy prices spiked, the economy nose-dived and Chebeague had a visit, courtesy of the Island Institute, from Soren Hermansen from Denmark's energy independent island Samso, the major focus in this question was on providing the town the capacity to generate its own power and/or heat. A quarter of the respondents (24 percent or 54 people) specifically were interested in exploring the possibility of wind energy. Another 8 percent mentioned having some kind of alternative energy sources without focusing on any particular kind. Many people mentioned several sources besides wind, especially solar power.

A young year-round resident said:

Seek community development facilities by creating study groups or task forces to determine realistic, practical projects worth pursuing such as:

1. Energy alternatives to reduce residential costs and needs. CMP electrical current costs 18 cents/KH. Oil, gas, propane, kerosene up to 50 percent surcharge compared to mainland costs. Obviously more than just shipping surcharge!!

Task force/study group to determine feasibility to develop:

- A. Wind power – windmills on high elevation in center of the island or on outer, uninhabited islands under Cheb, jurisdiction.
- B. Geo-thermal energy – residence energy needs by driving into the earth.
- C. Road resurfacing – improvements – roads with horrible, numerous potholes that patching will not correct.

Wind energy, thermal energy, road improvement issues could be explored to determine funding available to town with Federal and State funding support (participation usually up to 80% of cost, maybe more today for alternative energy projects. Explore bank lending availability at low interest. If successful, residents' energy cost would be minimal and Town could sell excess energy to other islands and mainland locations to create island profitable energy stream. Should start process by pressing the Pingree legislators who are understanding and sympathetic to island way of life.

A summer person added:

In the coming era with its focus on energy independence, environmental protections, and need for state of the art communications, Chebeaguers have a great opportunity to exercise leadership in all three areas. Following the lead of Vinalhaven establish an island electric cooperative with neighboring islands such as Long and then working together

develop commercial grade wind farms, solar power panels, and other sources of green power; and working through this cooperative work to develop 'smart' electrical power use which closely monitors and encourages a smarter island grid and smarter home usage. Encouragement and support for the internet capability already up and functioning is fine example of what island initiated and operated cooperatives are possible.

Not surprisingly, 48 percent of year-round residents, who spend the winter on Chebeague with snow, ice and power outages, mentioned alternative energy in general or wind energy specifically, compared with 25 percent of summer people. But for both groups this was the most salient infrastructure issue they wanted addressed.

Like the last person quoted, many people thought that good internet service was another high-priority issue that the Town needed to address. Overall, 18 percent of respondents said this was important, 11 year-round (14 percent of all year round) and 30 summer (21 percent of summer) people said that the island needs better/faster/more reliable internet. Six percent suggested having cable. On the other side 8% said they like and support Chebeague.net.

These answers suggest that the question was asked not only during a time of transition of internet service on Chebeague but also at a time when a variety of internet technologies are in use²⁵ that mainland residents have gotten used to. Hardwired internet by cable, T1 or DSL is more reliable and uniform than wireless. Chebeague has hardwired service to a few sites like the Library. Chebeague.net, which has been in existence since 2007, then uses these sources to deliver internet wirelessly to its customers. DSL is provided through telephone wires and switches and so require the participation of a telephone company which Chebeague does not have. This means that some people who want cable or “better” internet want hardwired service that they are used to in other places. There are probably others who are simply unaware of Chebeague.net, or do not choose to subscribe.

The other communication technology that many people wanted to be better is cell-phone service. Sixteen percent said they wanted this or even explicitly suggested that Chebeague have a cell-phone tower (possibly disguised as a lighthouse or located on a wind turbine). There was little difference between year-round and summer people. Two people, seeing the increasing use of cell-phones everywhere said they did not want a cell-phone tower on Chebeague.

About these communication technologies, most people simply said they wanted them, without elaborate explanations:

I'd like to see better internet and cell phone service (to foster the internet remote economy).

We love the increased ability to get on the internet and get cell phone access that has happened over the last few years.

²⁵ This information about internet service is courtesy of Herb Maine.

Finally several issues related to CTC and parking for the Stone Wharf got some attention. Three percent said the Town should provide support for or should explore support for CTC. Three percent wanted something done to improve the parking situation at the Stone Wharf, and four percent urged moving the ferry and its parking to Sunset Landing.

An alternative to more or different parking was suggested by 11 percent who wrote about having a bus/jitney/trolley/van that would go around the island and to the Stone Wharf. This was a somewhat more popular idea among summer people (12 percent) than year-round residents.

In addition to these ideas what were suggested by more than five people, there were a variety of other facilities or services that were laid out by one or a few people:

- Encouraging more recycling 2
- Building materials recycling
- Trash pickup 2
- Public toilet at Chandler's Cove wharf 1
- Town-owned boat yard 1
- Town health clinic 2
- Town owned library 1
- Larger library 3
- Have a larger fire barn 2
- Expand or build new school 2
- Create historic districts 1
- Bury all overhead wires 1
- Town assume ownership of some private roads
- Heliport for emergencies 2
- Have all roads paved with gravel 1
- Pave all gravel roads 1
- Speed bumps 1
- Have a paving machine 1
- Open a new gravel pit 1
- Use less road salt 2
- More land for Chandler's Cove Beach 1
- Have a public water supply system 1
- Regulate construction of private wharves 1
- Require cars to be electric 1
- More taxi service 3
- Deal with deer ticks 1

Regulation by the Town

People in the United States have strong opinions, pro and con, about public regulation of private activities, and Chebeague is no exception and there was not much difference between year-round and summer people on this score. How much regulation is enough? Five percent of respondents

said they approved of regulation and another five percent said it was necessary to protect public health and safety. On the other side, 11 percent wanted as little regulation as possible. Two year-round people put it succinctly:

We have entirely too much government regulation. The minimum necessary to run a town and no more.

I believe in regulation. I would not hesitate to regulate more but at present do not see the need.

Overall, however, 22 percent said they thought the Town of Chebeague Island had about the right amount of regulation now.

The regulations as they are now seem suitable –

Fifteen percent said it would make sense to revise the Zoning Ordinance, inherited from Cumberland, to adapt it better to Chebeague’s needs and values. But nine percent urged that any other new regulations be as simple and clear as possible, and five percent said that changes should be made very carefully. A summer person wrote:

This is a tricky one! I think that Chebeague has to be careful not to over regulate too quickly. The new town needs to prioritize what it regulates based upon the most important values of the community. For example, it might be more important to focus on building well constructed, safe homes than to police for mooring stickers! Monitoring shellfish harvesting is a matter of public health but tight regulation of cars left overnight at the stone pier maybe less important. What we choose to monitor will be a reflection of what we value as a community and we need to focus on the most important, long range items in the beginning!

A year-round resident said:

I believe that we should look to trust and not rules as the basis for a community. We need rules to live by but they should be simple and clear, accessible to all and the fewer the better. I think a commitment to simplifying local ordinances over time would be beneficial to the community. Parking regulations are currently a necessity but with good land use practices we may be able to remove them. The optimal rule addresses public safety, is clearly understandable and is enforceable.

Others, (see Table 10) said that regulations should be fair and enforcement of them consistent.

Many people left their comments at that general level. But a minority went on to discuss their reactions to specific Town regulations or regulators. They wrote about how much police

Table 10: Responses on Regulation by the Town

	Year-round	Summer	Don’t Know	Total
N	N = 77	N = 136	N = 9	N = 222

Approve of reg in general	3 4%	6 4%	1 11%	10 4.5%
Reg nec for public health & safety	0	9	1	10 4.5%
As little reg as possible	9 12%	15 11%	0	24 11%
Reg about right now	21 27%	27 20%	1 11%	49 22%
Need consistent enforcement	4 5%	4 3%	2 22%	10 4.5%
Need fair regs	5 6%	3 2%	0	8 4%
Revise zoning to fit Chebeague	14 18%	19 14%	1 11%	34 15%
Adopt regs carefully	0	10	1	11 5%
Encourage businesses	5 6%	4 3%	0	8 4%
Protect env't	1	6	0	7 3%
Zone for limited development	0	7	0	7 3%
Police				
Ok now	1	1	0	2
None in winter	2	0	0	2
Not full-time in summer	3	0	0	3
Want full coverage all year	5	1	2	8
Building/Plumbing				
Pro	0	6	0	6
Con	1	7	0	8
Harbormaster				
Pro	1	5	0	6
Con	7	1	0	8
Parking Enforcement				
Pro	6	7	0	12
Con	2	1	1	4
Traffic Regulation				
Pro	2	4	0	6
Con	0	0	0	0

protection the island should have, their experience with building and plumbing code enforcement, the Harbormaster and the parking regulations at the Stone Wharf. On the first three issues, those who commented were divided. On traffic and parking the people who wrote about the issue largely favored regulation and enforcement.

But at another level a number of respondents searched for a balance between enforcing regulations and allowing people to do as they pleased that they thought of as one of the hallmarks of life on Chebeague. Not being “too hard” on island businesses was one element of this, while protecting the island’s environment was another.

A balance might be difficult to achieve, but desirable. Obviously we all need to abide by the law, and respect the rights of everyone on the island, but one of the joys of growing up on Chebeague was the relative lack of supervision: I learned to drive sitting on my grandfather's lap in his jeep, had fun going from house to house in the back of a pick-up truck, and to this day my own kids think Chebeague is the greatest place on earth because they don't need seat belts and car seats.... we need to be sure that we regulate what is important and leave alone those small things that make the island life unique.

Zoning ordinances should be reviewed and revised with ISLAND LIVING in mind ... road widths and setbacks of mainland proportions are SO inappropriate on an island, etc. Regulations should be reasonable and flexible enough to encourage -- not DIScourage -- development of island business, especially if such business opportunities utilize existing buildings.

Seems reasonable to me. Chebeague is nice because it is more relaxed than other places. I'd hate to lose that but we must protect safety and the environment

Prior to Chebeague's separation from Cumberland, it seemed to me that regulation on the Island was somewhat more "relaxed." That is not to say it was more inefficient or ineffective, but there seemed to be a greater emphasis on, what I would call, "common sense." I recognize that many of our regulations are not formulated, as such, on the Island, but instead represent state and federal directives. But, put simply, to the extent we make the personal choice to "over-regulate," I think we diminish our sense of community, and to the extent we regulate disparately, I think we fall to the same result.

Enforcement is necessary for compliance however 'over-zealous' town officials should be avoided if possible (as in the case of . . . It should be remembered and promoted that one of the advantages of living on Chebeague is a greater level of 'freedom' than allowed on the mainland.

Several people did try to think of ways to actually achieve a publicly-acceptable balance through education and appeal procedures.

The Town should review and revamp those Cumberland ordinances to determine which are really applicable on the island. Communicating any ordinances or codes to the island residents is extremely important... The Town cannot "assume" that islanders, part-time or full-time, know the rules. Because it is a small community, we do not want the Town Government to make it impossible for the enforcement personnel to do their job reasonably.

Obviously the regulation is needed. There is chaos without regulation, but then again it should be humane. As long as there is a board to consider zoning variances when they are requested, as long as there is a government that seeks to carry out the spirit of the law above the letter of the law, then the law is good to have. The law should seek to empower businesses that bring wealth to the islanders, to boost that economic statistic we just learned about earlier in this survey! However, the law should also protect the natural beauty of the island and the safety of all who dwell there.

For some people regulation was about some people taking advantage of others:

Some but only what is absolutely necessary. Some is really required but my observation is that most people want to do their job and in the case of regulatory people and police, if they don't have enough to do they will complicate matters by being overzealous. Meanwhile the large money people . . . go almost as if no regulations existed. XXX will cut right to the shore if [s/he] wants and if [s/he] gets caught, will pay the fine. Most regulations end up affecting the small guy.

First: there is a basic misconception by a fair number of people that when we seceded we also seceded from the State of Maine and the United States. This needs re-education. Second: all enforcement codes, sheriff, shellfish warden and harbormaster are following mandatory state and Federal laws, so our local ordinances are the only place we have input and that must be in synch with Federal and state. Third: we need sufficient ordinances, strong enough to prevent external "hot shots" with \$ from taking advantage of the misconceived and unrealistic view that "this is Chebeague, we can do what we want." Our neighboring towns are better protected than we are. There will be spillover, if we fail to protect.

Finally, as with other questions there were a variety of suggestions that didn't neatly fit into group category:

Don't allow non-island businesses on the island 1

Enforce the leash law 3

Have a noise ordinance for night-time 2

Do away with most zoning 1

Want freedom 4

Solutions for parking at Stone Wharf 2:

Stone Wharf parking stickers for year-round residents; a but for others

Have remote parking, give Stone Wharf parking permits to commuters, fishermen and handicapped.

Don't allow messy outdoor storage 2

Require that gas-lines and monitor heater connections be inspected 1

Be strict about driving when drunk 1

Don't allow dumping of old cars .

Community Services

As the question on community services itself explained:

Because of the way Chebeague evolved as part of Cumberland, we have some services that have always been provided by the Town and paid for by property taxes and debt such as education, police, the volunteer fire and rescue services and the basic road system.. Some Town services, like the Shellfish Warden, are also paid for by user-fees, licenses and permits. Over the years, other community services have been added by creating non-profit organizations which are supported by voluntary donations -- the Commons, the Health Clinic and open space preservation by the Land Trust, for example. In addition to voluntary contributions, the Library and the Rec Center have historically had support by the Town, because they provided municipal services.

Now that Chebeague is an independent town, there is an opportunity to think about how well this mixed public/non-profit system will serve the island in the future.

More than a quarter of all survey respondents thought that the existing set of services should continue (24 percent):

[They should] stay the same for the most-maybe some more town support in areas.

Or that the current balance between public and non-profit services should continue (11 percent):

Basic services available in any town should be part of Chebeague - school, roads, library etc. The other services that are currently available have evolved as people have needed them and people have found a way to support them. I think that is a good way to continue - it prevents an overly burdensome collection of services being provided. It is a small town, it needs to keep infrastructure and services in line with the size and affordability of the population. You need enough to attract a diverse population, but you don't want to create a behemoth that can't be supported. If someone wants that, they can move to any town on the mainland.

A small number of people (5 percent) said that the Town was already paying too much for services:

[The] rec center and library should be paid for by voluntary contributions, so the bad roads can be repaired. other services such as education, police, volunteer fire and rescue, seem appropriate to be paid by the town/property taxes.

Or at least should not take on providing more:

SHOULD NOT HAVE TO SUPPORT MORE SERVICES OR ORGANIZATIONS THAN WE ARE DOING PRESENTLY. ENOUGH IS ENOUGH.

More people (16 percent overall) said that the Town should continue to provide at least the same amount of support as it is now or should increase its contributions. Many went on to list which organizations they thought the Town should support. The Library and Recreation Center, which

Table 11: Future Community Services

	N = 78		N = 127		N = 9		N = 214	
Continue existing services	25	32%	25	20%	2	22%	52	24%
Balance between Town 7 non-profit is good	5	6%	18	15%	0		24	11%
Town pays too much already	3	4%	1	1%	1	11%	5	2%
Town should not take on more services	10	10%	8	6%	2	22%	20	9%
Provide support to same or more	1	1%	7	5.5%	1	11%	9	4%
Library	13	17%	20	16%	1	11%	32	16%
Rec	12	15%	20	16%	0		32	15%
Health Clinic	14	18%	20	16%	0		34	16%
Commons	3	4%	5	4%	0		8	4%
Hist. Society	4	5%	1	1%	0		5	2%
Open space	1	1%	5	5%	0		7	3%
Support Fire and Rescue	4	5%	5	4%	0		9	4%
Town take over and fund								
CTC	8	10%	3	2%	0		11	5%
Library	4	5%	2	2%	0		6	3%
Too many orgs are raising money	10	13%	1	1%	0		11	5%
Use Fee for service	0		9	7%	2	22%	11	5%
Combine non-profit fundraising	0		4	3%	0		4	2%
Combine non-profits	2	3%	0		0		2	1%

already get Town support were mentioned often.

Certainly, the library and rec center should continue to receive town support thru taxes. Their successful fund raising and public support efforts will hopefully continue in the future. The Rec Center's summer programs have been so instrumental in 'shrinking' the island and ensuring that 'summer kids' get to know the 'island kids', both groups of which,

eventually and hopefully, become the adults who populate and contribute to, and run, our community. Today's investments are tomorrow's returns

The health clinic, which does not get any assistance from the Town now, was also mentioned by 16 percent of respondents. Indeed, in relation to health services some people ask specifically for more hours or more staffing by a doctor or physician's assistant. A summer person wrote:

Essential is more extensive Health Services and it should be public...if taxes can support education for children without going off-island, then taxes can support the elderly who need easier access to health care without going off-island. It feels ad hoc, and appears to be crowded. This aspect needs to be extended and professionalized. Land Trust is voluntary donations? How silly. This too should be part of the Town services.

A much smaller proportion, from three to five percent, went further to argue that at least some of the services – the Library and CTC were particularly mentioned -- should be taken over by the Town.

My initial reaction . . . is that The Commons, The Health Clinic, the Rec Center and the Library should become "Town Services" financed by tax revenue, with enhancements provided by volunteer activity or donations. In a way, I hate to give up the "freedom" a volunteer supported operation provides, but I know the volunteer pool is drying up and is over extended. Times have changed. Most younger families include two working spouses, or single working parent, and there is not much time to offer up as a volunteer. The older inhabitants have volunteered for years and feel ready to step aside. The Town should include these facilities as part of its infrastructure as they provide service typically included in most towns' responsibilities. The Commons might not be as strong a contender.

Like the person above who wanted more support for the Health Clinic, seven people wanted the Town to be responsible for acquiring and protecting open space.

Others said that many services should at least be substantially paid for with taxes. In part this was because people thought it would be simpler just to pay through taxes rather than through voluntary donations

I support having a millage for the island non-profits Commons, Health Clinic, Historical Society etc as well as the library and rec center. All the island organizations spend a tremendous amount of time on fundraising and most of it ends up being targeted back at islanders. If all paid a small amount then the annual letters or one annual event might enable them to spend more time on programming and less on fundraising. Some warrant more as they are in my mind critical services (library, health clinic and rec) Museum is close behind as it is the Town archive.

One year-round person who was involved in doing the fund-raising wrote:

We get so much money from the public for running all the non-profits and I wish there was a way that we didn't have to be so dependent on fundraising for everything. It is a lot of work -keeping that up - I wish some of it were through the taxes paid but that could be controversial. I think the rec, the library and the CTC should be town entities but I do think it would be hard to give up local control, but with the formation of committees or boards similar to what we already have we could do it.

Another year-round person who was primarily on the donating end said:

As I have already mentioned, most of the community services should be paid for by the Town, in addition to seeking State and Federal grants. Continuously asking for donations is becoming very annoying. Many people cannot afford to donate. I have recently known of a person who was pretty much harassed to donate to a Chebeague organization, not once, but twice. If we are to be our own Town, we need to pay for our own community services.

Some others emphasized the particular benefits that Town ownership might provide in terms of efficiency, stability and jobs:

Because Islanders had the initiative to build for themselves what Cumberland would not provide, we have infrastructure here which in most places would town-owned: Rec Center, Library, Hall. Perhaps it would be more efficient for these things to be town-owned on Chebeague. These are all important to the life of the community; the efficiencies of having their operation & maintenance under one umbrella would perhaps do much to ensure their long-term viability. This could also provide a few more of the coveted stable, long-term, full-time-with-benefits jobs so crucial to our communities survival. The list of redundancies on Chebeague in terms of organizational function and oversight is long. Yes, this would mean an increase in the town budget, but I do believe that at some point, this will be worth looking at. Though property taxes may seem burdensome, the 'volunteer tax' of living on Chebeague is ENORMOUS. The more months of the year one spends here, the more one is called upon and depended upon to 'make it all happen', and it's worse in the winter when there are so many fewer of us to keep our organizational boats afloat.

This resident referred to the "volunteer tax" of living on Chebeague. A few others were concerned about the distribution of the property tax burden that Town services would bring:

The system needs to be reworked so the burden is equal to some extent. You have the same vote with 200\$ taxes as you do 5000\$ taxes. It becomes selfish and biased. More needs to be done in a way that allows everyone an equal burden to some of this expense to get a fair outcome.

One summer person wrote that non-resident property owners should have a role in Town decisions on taxation.

On the other side of the public/private equation, a number of respondents explained why they like having non-profits provide many of the island services, arguing that this way they are more responsive and participatory, including for summer people. This was the argument made by one year-round resident:

I am in favor of small government at most levels. The highly participatory nature of the island community may partly be a result of the structure you describe. These organizations not only distribute the responsibility for services to a broad group, they work on the fundamental principal that if they don't do a good job they risk being diminished and even eliminated. Another important aspect of civic organizations is that it allows summer folks to participate and shape the island in a meaningful way. They can sit on these boards and have a vote, unlike Town Meeting.

A summer person added:

Chebeague's tradition of private, voluntary organizations providing public services is unique and priceless. Would like to see it continue and be strengthened, as opposed to the Town assuming larger responsibilities that duplicate or displace these community organizations

Another year-round person could see a central problem with Town services but thought they might evolve, nonetheless:

I like having many services provided by non-profits. It allows people to support services they agree with and not make the Town pay out of taxes. Also it involves people actively in the community and does not let them "leave it to the Town". I'm for having the Town contribute money to the non-profits. Town services might grow gradually, especially once the secession debt is paid off. Volunteer fire and rescue seems to work well.

Suggestions were also made for dealing with the number of non-profit organizations and the number of fund-raising appeals. Consolidating the services themselves was one idea:

The Commons, the Health Clinic, the Library, and the Rec Center should all be supported by the town in some small way because they are all very important to all generations. The Rec Center should become part of the school and the Health Clinic should become part of the Commons. The Library should be combined with Chebeague.net and be the hub for communication and growing technology on the island. We will pay with them with a greater support from our community because there won't be so many different nonprofits and organizations asking for money all the time.

Having a combined Chebeague United Way fundraising effort was suggested for dealing with the flood of requests for donations.

But some respondents liked the present voluntary fundraising system just fine. A summer person wrote:

The non-profit organizations have done well through the generous donations of people who can afford to do so. Fund raising events are a great way to raise money and provide the community to interact with summer and year round residents.

Finally, there were a number of people who had specific ideas about particular services they hoped might be provided:

Having the Health Center be run by Maine Medical Center

Having an ATM at the Post Office (which already is done)

Going back to having Meals on Wheels

Having a free-large-item dump day in the spring so fishermen could bring in lobster traps

A community garden and nature center

And a year-round resident wanted an orphanage

Town-owned ferry. Town-owned on-island bus service that operated around the ferry schedule, paid for by fees. And let's not forget the Orphanage, a community service in that it would employ islanders, add to the island population possibly long-term, keep the school busy, and give Chebeaguers the opportunity to do what they do best - give of themselves

Priorities

The last question in the survey asked respondents to think all the issues they had written about and list the three issues that they thought were most important. These priorities were combined²⁶ to produce an overall ranking of all the issues that were mentioned as priorities. This gives a picture of the general consensus on what the most salient issues were, and in addition a picture of the diversity of views on many of the others.

²⁶ The summation of these priorities was very simple, not highly rigorous and gives more of a general idea of the importance of the issues than a scientific ranking. Each person's choices were ranked from one to three, with three being the first choice and one the last. If someone gave only one priority it was given a score of three. If someone listed four priorities, they were similarly ranked from one to four. The basic score was based on the answer to question 11 on priorities, but if the respondent mentioned other issues in their answer to the first question that asked for an overview, these issues were given 1s as well. Some issues were mentioned by many people, some by only one or a few. The sum of all the rankings for a particular issue is its "priority". Thus an issue could get a higher score if more people chose it as a priority, and it could get a higher score if more people gave it a higher ranking.

It is also important to remember that when a respondent said that “transportation” was his or her highest priority, this might cover any number of policies related to the issue. In the case of “transportation” respondents gave it high priority who wanted transportation to be made easier by having a bridge, for example, and by people who approved of its being cumbersome and expensive as a deterrent to more rapid development on Chebeague.

The issues that topped the priority list for both year-round and summer residents are hardly a surprise since most have been sources of concern, discussion and policy effort for many years. As Table 12 indicates, the top priorities were:

- Education
- Transportation
- Economic development
- Land use including open space, and
- Maintaining the character of the community

Sustaining a “real” Island Economy

The Island Institute’s research that unconnected islands without schools cannot survive as year-round communities is both widely known and intuitively obvious. The corollary is that keeping island living affordable and attractive to young working families is essential. Awareness of both of these island “requirements” put education at the top of the priority list, with having jobs on the island, keeping and recruiting young families and affordability further down the list.

The logic is that attracting young families to the generally more expensive and harder-to-get-to life on an unattached island requires that the island school itself be excellent and that post-elementary education be of good quality and not too cumbersome to manage on a day to day basis. Additional services to support young families such as day care, recreation and health care also figured into this equation for some survey respondents.

Jobs and economic development are the other side of this same issue. People who live and have children on Chebeague can and do commute to jobs on the mainland. But this was not seen as a mainstay of the future economy, at least by year-round residents. There was also some interest in the idea of working on the internet, and there were a few respondents who actually do it. But no one had any very specific ideas about what kinds of jobs this would actually involve.

But for Chebeague to survive as a “real” community, jobs on the island are necessary. Of the traditional resource-based occupations – fishing, timber harvesting, farming and tourism – only fishing and tourism employ a significant number of people now, and both are very important to

Table 12: Priorities

	Year-Round priority/person	Summer priority/person	Don’t Know priority/person
	N = 84	N = 142	N = 15

Sustaining a “real” economy						
Education	84	1.00	100	.70	9	.60
Retain young families	31	.37	30	.21	3	.20
Maintain non-profit services	34	.40	22	.15	3	.20
Economy						
Economic dev.	22	.26	56	.39	1	.06
More jobs	25	.30	24	.16	11	.73
Sustain fishing	17	.20	6	.04	0	
Affordability, general	8	.09	27	.19	11	.73
Affordable housing	32	.38	35	.25	0	
Transportation to the Mainland		.9		.6		
Build a bridge	0		7	.04	0	
Provide stable access to the mainland	52	.62	72	.51	3	.20
Cost of transportation and parking	24	.29	8	.06	3	.20
Land Use		.7		.9		
Land use, general	0		32	.23		
Preserve open space & natural env’t	41	.49	47	.33	1	.06
Shape development	0		29	.20		
Limit development	20	.24	24	.17	3	.20
Preserve clean groundwater	13	.15	16	.11	3	.20
Maintain Character of the Community	42	.50	48	.34	8	.53
Town Governance						
Create sustainable government	0		13	.09	1	.06
Repair roads	19	.23	13	.09	1	
Reduce property taxes	25	.30	26	.18	0	
Have a fair assessment system	3	.03	5	.03	0	
Miscellaneous						
Develop alternative energy sources	17	.20	17	.12	0	
Don’t change	9	.10	12	.08	3	.20

anything			
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defining the island’s identity. There was support on the survey, especially from some year-round residents for working to maintain the fishing industry even though now it is largely a two-season occupation. Respondents were more divided on tourism, with summer people seeing it as an engine for job growth, while year-round residents, wanting year-round, good-paying jobs, were less enthusiastic. There was also some interest on the survey in reviving farming and forestry.

Finally, related to sustaining the year-round, working community, a number of respondents were concerned about the expense of living on Chebeague as a barrier to the kind of working people who have made up the island economy in the past. First and foremost was the price of housing, but respondents also mentioned the overall higher cost of living, often driven by the high cost of transportation.

Getting to the Mainland

The other major priority for everyone was transportation to the mainland. This is an issue that has been central to Chebeague’s efforts to sustain the island’s economy and community since the 1950s. The survey indicated that the ideas from those early years of having either a bridge or a car ferry now garner relatively little support. More than half of all respondents, year-round and summer alike accepted the existing system of two ferries, one to Portland and one to Cousins Island. Indeed some residents explicitly saw the cumbersome and expensive transportation system as a useful bulwark against pressure for development on the island.

Beginning in the 1970s, though, the survival of the two ferries came under pressure. The private Casco Bay Lines went bankrupt and was reorganized as a public ferry district with a board elected by the residents of the islands it served. The Chebeague Transportation Company has had a more difficult time establishing its role as Chebeague’s primary ferry. Conflicts with residents of Cousins Island over increased use of the Cousins Island wharf as well as increased parking near the wharf led to lawsuits, restrictive court settlements and, ultimately, the threat of closing the parking lot. The solution of limited parking at Cousins Island and a remote parking lot in Cumberland with a shuttle bus evolved over the years. In recent years the State DOT has intervened to take the Blanchard lot by eminent domain, establish the existing Route 1 parking lot and rebuild the road down to the Cousins Island wharf, thereby formalizing and legitimizing the CTC’s role as a provider of transportation to Chebeague. So it is no wonder that survey respondents gave high priority to maintaining stable access to the mainland.

Now, however, the survey indicates that specific concerns about the ferry service have shifted more to the cost of the service, the ownership and management of CTC, and the problem of providing enough ferry parking on the Island. The survey indicates that there is not broad agreement on solutions to these issues, or even that they are issues to everyone. Some want to see Town ownership of CTC. Some want the ferry and parking to be moved to Sunset Landing while others suggest having a round-the-island shuttle to reduce or end the need for the parking at the wharves. Some want the costs of transportation to be reduced by some kind of subsidy from the Federal, State or Town governments.

Land Use

In the past Chebeague's economy has been based on its land and water – land for farming, forestry and vacationers and water for fishing and vacationers. Not having continuous 1.5 acre development across all of Chebeague was important to both year-round and summer people but when they listed their priorities, they looked at the issue a little differently. Year-round people's priorities were simply to preserve open space and the natural environment and limit development. Summer people saw more room to allow development to occur while still preserving open space. But this probably overemphasizes the difference, since, in their answers to the question about land use, almost the same proportion of summer and year-round people mentioned cluster housing or allowing higher density housing in order to preserve open space.

By now most people on the island recognize that, whatever their concerns about the school, the economy or the transportation system, keeping the aquifer unpolluted is the basic key to maintaining any kind of community on Chebeague. Only a minority mentioned it as one of their three highest priorities, but it does pose some constraints on where and how much development can occur on the island.

Maintaining the Character of the Community

Respondents saw maintaining the character of Chebeague's community as equivalent in importance to preserving open space; only education and maintaining stable access to the mainland were more important. They described it as a caring, inclusive energetic, active and free-spirited community.

Town Governance

Town governance itself was not a high priority. Some summer people saw the development of a sustainable town government as a priority, but year-round people seemed to take that for granted. They only had as a priority that the Town should operate efficiently. On the other hand, several tasks that lie within the purview of the Town were of concern to some, especially year-round, people. Road repair was one, perhaps not surprisingly since the survey reached people in January when the winter wear and tear was reaching its peak.

Reducing property taxes also had a fairly high priority for year-round residents, higher than road repair and comparable to reducing the cost of reducing parking and ticket prices for CTC. The need to keep taxes down was, in fact, a central tenet of the viewpoint of 20 percent of year-round respondents. They supported the idea that the Town's role on the island should be to provide basic services and not much else. A retired year-round resident said that the most important issues were:

Maintaining necessary services, paying off the debt incurred by the separation from Cumberland and keeping taxes affordable to *all* residents. The Town of Chebeague will do well to provide the necessary services at a cost to the taxpayer that is affordable in the future.

This person wrote that the community as it is now is "fine, better than most. Do not mess with it." "The economy will take care of itself; leave it alone." "Maintain current level of education."

Regulate only “what is necessary”. This person did want the Town to do a full and correct revaluation of all property that would be fair.

This perspective contrasted with the views of 30 percent of the respondents, who wanted the Town to play an activist role – changing the patterns inherited from Cumberland by providing and funding through taxes and fees a variety of services now provided by other island organizations. For example, another retired year-round resident laid out

For me, the most fundamental question for the future is do we try to shape the size of our community and its economic and demographic makeup. For me a beautiful place enjoyed by everyone may be selfish, but to me it is a necessary consideration for us. Our choices may be more black and white than we like. The outside world is a great place, but we have chosen this one to live in – and we could be considered an endangered species.

This person wanted the social character of the island to remain as it is, with a strong volunteer element. But the future needed to be “shaped”. Young families would be encouraged to come by having an excellent school. Consideration might be given to having a pre-K – 12 school. Cluster housing would help to preserve open space and rental housing could help affordability. The economy would build on fishing, farming, forestry and internet jobs, not tourism. This person would move the ferry landing to Sunset, and CTC would become part of the Town, which should also be considering investing in alternative sources of energy, more open space and the range of non-profits on the island. “Given the above, we still need to keep the taxpayers in mind and understand that none of us can have everything.

The two ends of this traditional conservative – liberal spectrum were balanced by the 50 percent of year-round people who were “moderates”. They often proposed some issues on which they thought the Town might play a larger role, but they really did not want much change from the way things have been done in the past. They tended to begin their surveys not with an overview statement but with a list of things they thought were important. Another year-round retiree wrote:

Water conservation

Land conservation

Maintaining the island for what it represents to us. Why do “we” want to live here, what brought us here to begin with?

This person liked the ferry because it slowed growth. Parking at the Stone Wharf should only be for year-round residents while everyone else would take a shuttle to get there. The island economy is “self-adjusting” in that islanders are adaptive, developing businesses that will survive. The school does an “excellent job” and just needs to stay up to date with computers, etc. The status quo with the Town and the various community services was fine, though more grant-writing could increase resources. Development should be kept to a minimum. The island “needs to be protected just as those who are concerned about the development of the Moosehead region.”

It was much more difficult to choose a “typical” example of a “moderate”, and one more example will have to suffice. A lobsterman with children in the school wrote:

We need to continue on the path of increasing affordable housing opportunities. This and many other islands are unique in that people of extremely different economic circumstances exist in such close proximity to each other. I believe that both communities have a degree of respect for each other. We need to keep property taxes from climbing too high while also *gradually* replacing degrading roads etc. Hopefully we can keep young people on the island and keep a good number of kids in the school, but at least we know that nobody else can take the school away because of small enrollment.

What all but a couple of people agreed on was that the island that they knew should be preserved for future generations.